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SUGAR BEET BULLETIN

Volume 36, 1973

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AGRICULTURAL DEPARTMENT--SPRECKELS SUGAR DIVISION

AMSTAR CORPORATION

NAME	TITLE	ADDRESS	TELEPHONE
ADMINISTRATIVE OFFICE			
Dr. Russell T. Johnson	*Vice President Agriculture & Research*	SAN FRANCISCO 50 California Street 94111	415-362-5600
John M. Kendrick	*Agricultural Manager*	"	"
S. Loyd Stovall	*Manager, Beet Pulp Dept. & Livestock Specialist*	"	"
Gerald G. Nordstrom	*Assistant to Agricultural Manager* *Editor, Spreckels Sugar Beet Bulletin*	"	"
Thomas F. Ryan	*Farm Properties Manager*	SPRECKELS	408-455-1811
Arthur C. Young	*Assistant Farm Properties Manager*	"	"
RESEARCH			
Dr. James D. Schulke	*Plant Breeder*	SPRECKELS	408-455-1811
George W. Wheatley	*Agronomist, Beeet Seed*	"	"
Lauren M. Burtch	*Chief Agronomist*	MENDOTA	209-655-4961
Dale R. Comer	*Agronomist*	CHANDLER	602-963-7311
Jack H. Brickey	*Agronomist*	WOODLAND	916-662-3261
ENGINEERING			
John O. Nielsen	*District Engineer, Districts 2, 3, 4, 5*	MENDOTA	209-655-4961
Robert B. McGregor	*District Engineer, District 1*	SPRECKELS	408-455-1811
DISTRICT 1 — SALINAS VALLEY			
J. Byron Larsen	*District Manager*	SPRECKELS	408-455-1811
William R. Duckworth	*Agricultural Superintendent*	"	"
William H. Hodson	*Agricultural Superintendent*	BRAWLEY 991 "E" Street	714-344-1123
Harold H. Voth	*Field Superintendent*	SPRECKELS	408-455-1123
Lawrence W. Ellis	" "	"	"
Norman F. Rianda	" "	KING CITY P.O. Box 87	408-385-3307
DISTRICT 2 — NORTH SAN JOAQUIN VALLEY			
Stewart S. Anderson	*District Manager*	MANTECA	209-823-3121
John R. McDougall	*Agricultural Superintendent*	"	"
Joseph W. Hull	*Field Superintendent*	"	"
Ernest B. Moeller	" "	"	"
Virgil M. Horton	" "	"	"
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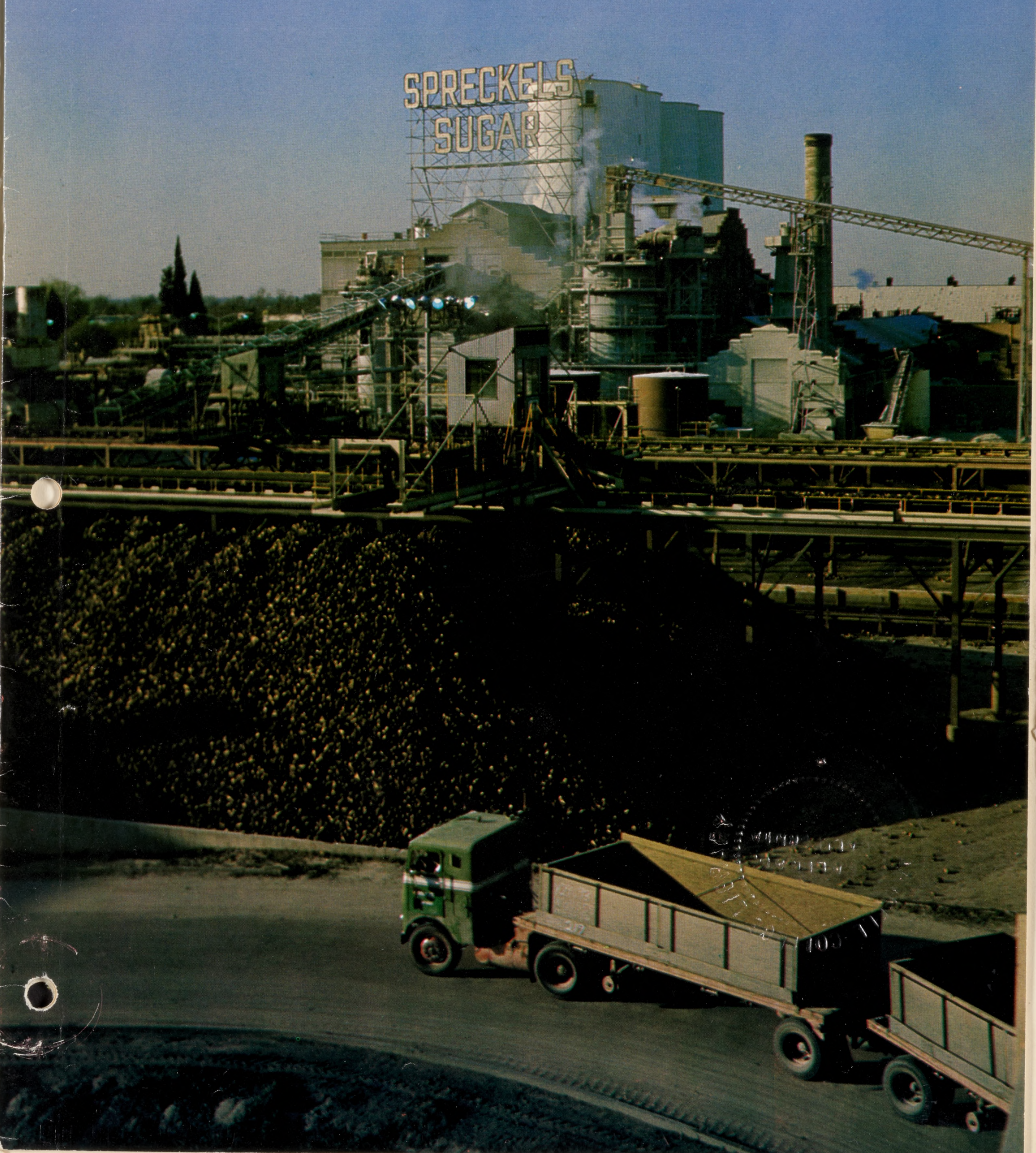
SPRECKELS SUGAR BEET BULLETIN

PUBLISHED AS A SERVICE TO CALIFORNIA AND ARIZONA SUGAR BEET GROWERS



An Important Message

Because of the unusually wet weather experienced the last five months and because of an all-time record crop, the spring harvest in the Sacramento and Northern San Joaquin Valleys will extend well beyond normal completion dates.

Late harvested crops must be properly cared for to minimize the losses which are associated with rot, dehydration, seed stalk formation, dry cloddy soil and other adverse conditions. These losses can be expensive and in extreme situations can render the crop unfit for processing.

The practices referred to below will help maintain sugarbeets in a healthy and processable state and are intended for those fields which are likely to be harvested after May 15th. Since conditions will vary in each field, it is highly advisable that you discuss the application of these practices with your Field Superintendent at the earliest possible date.

FIELD SELECTION — The field or fields that are to be harvested late should be selected in advance and, in general, have beets that are well anchored, that are low in fertility, were planted last (youngest), and are as healthy and weed free as possible. Other desirable characteristics include deep furrows, which will facilitate irrigation, well drained fields and fields which have a source of water available.

CULTIVATION — A shallow cultivation to rid the furrows of any weeds and to prepare the field for irrigation should be done as early as possible.

IRRIGATION — If properly done, irrigation will help maintain the late harvested crop in a healthy state, provide for additional growth, prevent dehydration losses and will drastically reduce the amount of dirt to be harvested and hauled.

A saturating type irrigation is not recommended. Water should be pushed through the field as fast as possible. It is not necessary to be concerned if water can't get through a few trash-clogged rows.

Some fields may require a number of irrigations, depending upon soil types. Timing is important and a field which is allowed to become too dry before irrigating will be highly susceptible to rot.

TOPPING — Seed stalks or bolters will probably begin to appear in most fields by early April. About mid-May flowers will be noticeable and approximately thirty days later hard seed will be formed. The bolter and it's seed are produced at the expense of sugar stored in the root.

Topping will minimize the amount of hard seed produced, which would otherwise lead to volunteer beets in subsequent crops.

Bolters should be topped before reaching a height of three feet and the topper should be set just above the beet leaves. Topping any more severely will likely result in decreased beet quality. More than one topping may be required.

CLEAN-UP — All crop residue should be worked under immediately following the harvesting operation. All ground keepers and weed beets in the area should be destroyed.

SPRECKELS SUGAR BEET BULLETIN
PUBLISHED AS A SERVICE TO CALIFORNIA AND ARIZONA SUGAR BEET GROWERS

VOL. 36 1973 No. 1

Gerald Nordstrom .... *Editor*

Agricultural Department—Spreckels Sugar Div.

R. T. Johnson .... *Vice President*
J. M. Kendrick .... *Agr. Manager*

District Managers

Byron Larsen .... *District I, Salinas*
Stewart Anderson .... *District II, Manteca*
Don Hefner .... *District III, Woodland*
Dan Dieter .... *District IV, Mendota*
Ralph Lambdin .... *District V, Arizona*

Spreckels Sugar Beet Bulletin is published by the Agricultural Department of the Spreckels Sugar Division, Amstar Corporation, as a service to its growers. Mention of specific methods, devices and implements does not constitute an endorsement by the publisher. Please address all communications to: Spreckels Sugar Beet Bulletin, 50 California St., San Francisco, California 94111. Please include your zip code.

Cover: The Manteca factory as seen from the beet receiving end.

The Printer, 707 2nd Street
Davis, California 95616

Virus Yellows Control For Spring Planted Sugarbeets

By Dr. W. H. Lange, Professor of Entomology and Dr. F. J. Hills, Extension Agronomist, University of California, Davis.

The following article is reprinted from the March, 1973, issue of "Sugar Beet Notes" published by the Agricultural Extension Service of the University of California.

The green peach aphid, Myzus persicae is the most important vector of the aphid-borne plant viruses of the sugarbeet including beet yellows, beet western yellows, and beet mosaic.

If your area has not achieved an effective beet free period before you plant your 1973 crop, consider what you can do to improve beet yield despite the danger of the transfer of viruses from old to new plantings.

May and later plantings often escape virus infection due to the combination of warm weather and predatory action which greatly reduces aphid flights. Our tests have shown, however, that yield increases due to virus infection in later plantings are often offset by a reduction in yield due to a loss in favorable growing time with the result that April and May plantings yield about the same. This is true whether you harvest in the fall or the following spring. To improve root yield we suggest the following:

(a) Use a yellows resistant variety. US H9 and US H10 are varieties developed for yellows resistance.

(b) Plant in early April.[1]

(c) Use an insecticide to protect young plants. In most years beets planted in April will be visited by winged aphids shortly after emergence and, therefore, it is important to protect the seedlings as soon as they emerge.

1. Place Temik®* (aldicarb) 2-3 inches under seed at planting. Use 9 oz. of 10% granules per 1,000 feet of row (equal to 1.0 lb actual per acre for 30 inch rows, and 1.5 lb actual per acre for 20-inch rows). This should give effective aphid control from 4 to 6 weeks.

2. It may be necessary to treat a second or third time depending on the duration of aphid activity. If you find as few as 5 wingless aphids per 10 plants, spray with Meta-Systox-R® (oxydemetonmethyl) or emulsifiable Thimet®* (phorate). Both sprays are most effective if applied by ground equipment, but can also be applied by air. For ground application we suggest you use 40 to 50 gal. of spray (containing 8 oz. of actual Meta-Systox-R® or 1 lb actual Thimet®) per gross acre, but concentrate the spray on the plant rows. A single application of either material should be effective for from 10 to 14 days. Meta-Systox-R® is restricted by Federal Registration to two applications. Sidedressing with Temik® (9 oz. of 10% granules per 1000 feet of row) followed by an irrigation may be used in place of either or both sprays. Federal registration restricts Temik to a maximum of 3 pounds actual per acre per crop.

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[1] Many growers and company fieldmen prefer to have beets planted so that they emerge after the peak flights have passed. This occurs in late April. When planting is delayed after May 1, yields tend to decline. Planting should be completed by June 1. June plantings always yield significantly less than earlier plantings and July plantings tend to be a disaster.

®Indicates trade name.

*Temik® and Thimet® are materials that require a permit for use from the Agricultural Commissioner.

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Twenty Years of Progress In Sugarbeet Culture

The following article was prepared by Lauren M. Burtch, Chief Agronomist, Spreckels Sugar Division, Mendota.

In 1952, Spreckels' activities were divided into two districts totalling 53,000 acres. The average Company yield was 18.4 tons per acre with 15.7 percent sugar and the crop was processed through three factories, Woodland, Salinas and Manteca. The 980,000 tons harvested that year represented an improvement over the 1951 crop, but was substantially below the 1950 crop record of 79,900 acres which yielded an average of 20.2 tons and 15.2 percent sucrose.

Beets were planted from late December through February in the Salinas Valley and from January through May in the Central Valley district. The seed was processed, treated with phygon, and planted from one to two inches deep at heavy rates. Some work had begun with mechanical thinning, but only mechanical weed control and hand labor were available to commercial growers. The values of nitrogen fertilizer and irrigation were recognized mostly in terms of higher per acre root yields and, as a result, sucrose values had declined by as much as one percent in five years. Harvest started as early in the summer as possible and was expected to be completed before the winter rains. Over-wintering was discovered accidentally when a portion of the record 1950 crop was inadvertently harvested in the spring of 1951. This provided a new approach to the handling of a beet crop, but no one had any idea of its true potential or limitations. The only diseases recognized were seedling diseases, Curly Top, Cercospora leaf spot, Sclerotium Rolfsii, and other root rot organisms. Both sugar beet and root knot nematodes were recognized as serious problems but only rotation was available for control.

ROW SPACING

Most growers were planting on double row beds usually 40 to 44 inches apart, but many growers north of Woodland were planting single rows 20 to 22 inches apart with no beds. A few were planting single rows 30 inches apart.

Bill Blanken, Field Superintendent in the Tulare and Kings County areas is shown checking a fall-planted field that had a post-plant, pre-emergence application of Pyramin and T.C.A.

Changes in sugarbeet culture over the last twenty years have allowed the industry to continually expand its production. In the 1972-73 year, Spreckels will process sugarbeets from approximately 191,000 acres in California and Arizona. The tonnage produced from this acreage will be more than five times as many tons as processed by Spreckels in 1952. This is an average of over 230 days of operation for five factories and the yield will be approximately 26 tons per acre. This increase in yield, acreage and total production is the combined result of a better economic climate in the industry all the way from the growing end to the marketing end and the construction of new factories and expansion of older ones.

Research played a significant role in the agricultural part of this achievement through the cooperative efforts of growers, Spreckels researchers and other research agencies such as the USDA, state universities, and commercial chemical companies.

Agricultural research has helped to bring about our present production levels by assisting in: (1) the development of the over-wintering program as we now use it; (2) the development of the area planting and harvest approach for control of the virus yellows complex; (3) the development of chemical weed control programs for all of our production areas; (4) the discovery of the value of a systemic insecticide for prevention of curly top injury; (5) progress in the proper use of nitrogen fertilizer; (6) the development of a program for control of Cerospora leaf spot through the use of improved cultural practices and systemic fungicides (8) improved seed processing and treatments for the prevention of seedling diseases.

I do not mean to imply that agricultural research is by any means wholely responsible for all of the foregoing changes, but agricultural research has consistently led the way toward putting together the various bits and pieces from whatever the source so that they could be implemented into the agricultural program as we now have it.

The overwintering program is an example. In 1952, we knew that beets could be overwintered safely, but we did not have the bolting resistance necessary to permit us to make full use of a spring harvest program. We also needed to define the planting date limits for overwintering and to develop the cultural practices necessary to produce profitable overwintering crops. These include weed control, fertilizer programs, bolting resistance, insect control and irrigation practices.

The overwintering program also created a serious problem with the introduction of the virus yellows disease complex. Virus yellows became a serious limiting factor in profitable production and processing in all areas at various times between 1956 and 1970. The area planting and harvest programs that we currently use have not solved the problem but they have helped to minimize damage and allow us to grow profitable crops. This concept was a cooperative approach adapting knowledge developed by pathologists from the USDA and universities into grower systems of beet culture.

CHEMICAL WEED CONTROL

Chemical weed control programs are currently available to all growers in all areas. Twenty years ago there were none. These programs have been developed through the cooperative efforts of university weed control specialists working with Spreckels agronomists and with the chemical companies who originated the various compounds. Still, while many herbicides are available, much work remains to be done. We still have resistant weeds and we cannot expect one herbicide to carry the crop from planting to harvest. Yet, without our present herbicide programs, few growers could grow profitable sugarbeet crops.

The discovery of the value of insecticides such as phorate (Thimet) for control of curly top was truly a benefit in the South San Joaquin Valley and in Arizona. This observation was first made in 1961 and yet the commercial application and importance was not fully recognized until 1966 when a severe outbreak of curly top threatened most of the Mendota production area. Growers have since adopted the Thimet program and damage has been kept at tolerable levels. The State Leaf Hopper Control Program has also helped the industry in learning to live with and control the curly top virus vector.

NITROGEN MANAGEMENT

The use of nitrogen fertilizer is better understood now but is not yet under complete control. Nitrogen is undoubtedly responsible for much of our yield increases in the past 20 years, but it must take the blame for part of the decline in beet quality which took place during the same period. Much information and many guides for nitrogen fertilizer have been developed in the past 20 years and some of these guides or tools are being used successfully today. The consistent improvement in sucrose achieved in the past several years is largely the result of recognizing the harmful influence of too heavy use of nitrogen. There is still much room for improvement, however.

Cercospora leaf spot can be a tremendous influence on beet production and quality, as has been evidenced in Eastern Arizona. Fortunately, the areas subject to Cercospora injury are relatively small in our total acreage picture. Nevertheless, control is essential in all areas subject to attack and the use of the newly discovered systemic fungicides, Benlate and Mertect, have undoubtedly permitted Eastern Arizona growers to survive. Cultural practice improvements in weed control, irrigation and fertilizer management must supplement the fungicide program.

Improvements in equipment and cultural practices such as planting and harvest equipment, seed treatment, and processing plus depths of planting, sled cultivators, mechanical thinning programs, and irrigation practices are all agronomic innovations which have made tangible contributions to the production levels currently experienced.

The development of improved monogerm varieties of seed deserve special recognition for in 20 years we have progressed from open-pollinated multigerm varieties and now to monogerm hybrids. All of these steps have incorporated non-bolting benefits, disease resistance, special emergence qualities and, in short, the variety development program deserves a big share of the research credit.

FUTURE CHALLENGES

In spite of the gains listed in the foregoing discussion, many challenges remain for research in the future. Further improvements can and will be achieved but each additional step may be more difficult to achieve.

The most important areas remaining as a challenge to the industry are (1) the control of sugarbeet nematode; (2) the control of the virus yellows complex through methods other than escape; (3) improvements in sugarbeet quality (rot, nitrogen, harmful impurities); (4) insect control — worms, mites, aphids; and (5) control of weed problems of the future.

While we have not achieved control of sugarbeet nematode, new fumigation approaches show promise of improving yields where sugarbeet nematode is a problem. Fumigation techniques were developed and implemented by beet growers for control of root knot

(Continued on page 12)

Summary of Herbicides Performance Trials in Sugar Beets Planted February-June in the San Joaquin Valley

METHOD OF APPLICATION	HERBICIDE	CONDITIONS THAT RESULTED IN MOST EFFECTIVE CONTROL	CONDITIONS THAT RESULTED IN POOR OR INEFFECTIVE CONTROL
PREPLANT INCORPORATED	Roneet® or Tillam®	Summer annual broadleaf weeds and grasses in well prepared seed bed, free of clods. In nutsedge infested fields.	In fields where mustards and London rocket predominate. Poorly prepared cloddy seed bed.
POST-EMERGENCE	Betanal®	Vigorously growing winter and summer annual broadleaf weeds except pigweeds.	When pigweeds and Russian thistle predominate and grasses are present. When temperature exceeds 80°F, injury may result.
	EP-475 (Experimental label only)	Vigorously growing winter and summer annual weeds including pigweeds.	When grasses are present. Application when temperature exceeds 80°F, injury may result.
	Pyramin® + dalapon + surfactent	Seedling mustard species and other winter annuals are present. Volunteer cereals and grasses except barnyard grass.	Summer annual broadleaf weeds and barnyard grass are present. Rising temperatures and low soil moisture.
	endothal + dalapon + surfactent	When volunteer barley or wheat predominate and temperature is below 70°F.	When broadleaf weeds and grasses other than volunteer cereals are present.
POST-THINNING, SOIL INCORPORATED	Treflan®	Summer annual grasses and broadleaf weeds — except resistant species. Thoroughly incorporated into clean fields.	When resistant species of weeds predominate. When soil incorporation is poor.
POST-THINNING INJECTED INTO IRRIGATION WATER	Eptam®	Injected into irrigation water prior to weed emergence. Broadleaf weeds resistant to Treflan including nutsedge. Repeat application essential.	When cocklebur and wild sunflower predominate. Poor distribution of irrigation water and poor subbing. Weeds established at time of treatment. Timely follow-up treatment not made.

®Indicates trade name

Compiled by B. B. Fisher
U.C. Farm Advisor, Fresno County

1971 Crop Honor Roll

California Districts

It is with a great deal of pleasure that we publish the names of those California sugarbeet growers whose 1971 sugarbeet crop exceeded their districts sugar per acre average by 25 percent or more. The names are listed in descending order of pounds of sugar per acre.

District I, Salinas

Growers in the Salinas Valley District produced an average of 8,408 lbs. of sugar per acre in 1971. Those contracts which exceeded that average by 25 percent or more are listed below.

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
Peter Vucovich	22	45.44	15.69	14,257
Robert Lindeleaf	25	46.39	14.79	13,721
John Grisetti	52	46.67	14.70	13,717
Kamimoto Bros.	15	38.26	17.64	13,500
Owen T. Rice & Son Inc.	100	42.84	14.76	12,937
Manzoni Bros.	19	42.14	15.27	12,871
Edwin Thorp	40	41.42	14.66	12,144
A. H. Christensen	20	40.47	14.80	11,983
Kishimura Bros.	93	40.13	14.92	11,978
Bengard & Smith	92	37.22	16.03	11,930
Jim Fanoe & Son	28	38.76	15.33	11,886
California Coastal Farms	88	39.49	14.51	11,459
A. Basseti & Sons	25	33.39	17.11	11,430
Robert Lindeleaf	33	38.54	14.67	11,306
H & E Christensen	31	38.24	14.72	11,260
Bruce Sconberg	34	37.43	14.75	11,041
John A. Andersen	72	36.36	15.15	11,018
A. F. Silveira & Sons	41	36.72	14.99	11,012
Gularte Bros.	22	35.05	15.57	10,914
Tony & Larry Homen	24	37.16	14.62	10,869
J. Dale Phillips	35	36.02	15.08	10,865
Robert Lindeleaf	106	35.27	15.40	10,863
Roy Fultz	104	35.53	15.15	10,764
Bengard & Smith	119	34.49	15.60	10,756
A. Bassetti & Sons	35	35.52	15.13	10,745
A. F. Silveira & Sons	24	33.95	15.81	10,736
Robert Lindeleaf	47	37.68	14.24	10,729
F. J. Martin	39	37.76	14.15	10,687
Lincoln Handley	30	36.14	14.75	10,659
Bruce Church Inc.	220	35.62	14.89	10,605
Wm. Whitney	68	38.95	13.53	10,536

District I, Imperial Valley

The 1971 Imperial Valley crop, which was harvested in late spring, 1972, produced an average of 8,428 lbs. of sugar per acre. Those contracts which exceeded that average by 25 percent or more are listed below.

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
John H. Borchard	104	38.23	16.99	12,991
Vessey & Co., Inc.	73	42.05	15.38	12,914
John H. Borchard	35	34.39	17.03	11,713
Davis Beauchamp	62	34.35	17.04	11,706
Brawley Ranches	61	36.47	15.95	11,630
Fleming & Jack	70	40.37	14.33	11,567
Adamek & Dessert	64	37.41	15.42	11,538
K-Ranches	67	45.38	12.65	11,484
Mamer Ranches	135	35.50	16.11	11,433
Bill Wiest	143	35.63	16.00	11,404
Vessey & Co., Inc.	66	34.12	16.61	11,330
Williams & Quick	70	36.36	15.28	11,114
Williams & Quick	68	31.49	17.59	11,075
Fifield Land Co.	126	33.42	16.51	11,038
Adamek & Dessert	59	33.38	16.22	10,825
Fritz Kuhn, Jr.	63	31.24	17.29	10,800
Michael D. Ayala	88	35.00	15.43	10,799
Jack Bros. & McBurney	165	34.87	15.44	10,765
Lerno Bros.	138	34.76	15.37	10,681
Hausmann & House	139	30.76	17.23	10,601
Michael D. Ayala	109	31.89	16.57	10,571
John R. Benson Farms, Inc.	71	36.45	14.45	10,539

District II, Manteca

Grower contracts in the Manteca District produced an average of 8,566 lbs. of sugar per acre in 1971. Those contracts exceeding that amount by 25 percent or more are listed below.

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
Ronald Nunn	60	47.19	16.67	15,736
Ishida Bros.	10	48.90	15.39	15,049
Joe Toste, Jr.	50	42.20	17.68	14,919
Dwayne Petz	50	39.67	18.15	14,399
Alvarez Bros.	105	45.82	15.18	13,913
Stephen Pellegri	25	42.41	16.00	13,572
Dwayne Petz	103	38.01	17.74	13,487
Alvarez Bros.	165	41.69	16.13	13,450
Tanaka Farms	119	42.66	15.54	13,256
Murata Bros.	35	39.60	16.32	12,926
Ronald Nunn	59	42.52	15.11	12,855
C. A. Nilsson	74	37.75	17.25	12,853
Lucio J. Costa	70	35.71	17.50	12,500
C. A. Nilsson	55	38.11	16.28	12,407
Joe Toste, Jr.	60	35.99	17.07	12,289
Inter Harvest, Inc.	106	40.36	15.19	12,260
Lucio J. Costa	48	39.87	15.31	12,212
John Mancuso	30	37.29	16.25	12,122
John J. Carvalho	25	36.70	16.50	12,115
Westing Farms	56	36.78	16.34	12,020
Lester Rodgers	25	37.65	15.88	11,957
Tom Hiraga	51	38.33	15.58	11,947
Emery T. Lally, Jr.	60	36.45	16.37	11,934
Robertson & Sons	80	34.34	17.36	11,925
Mizuno & Sasaki	70	36.26	16.33	11,841
Stuart R. Clever	58	37.73	15.62	11,790
Joe Toste, Jr.	57	32.80	17.89	11,735
Stephen Pellegri	45	32.02	18.13	11,609
Philip Martin, Jr.	50	35.35	16.39	11,590
Kiyoi Bros.	83	33.81	17.09	11,555
Albert Fonseca	68	38.86	14.87	11,552
Dwayne Petz	77	30.60	18.87	11,548
Frank & Steve Solari	113	34.30	16.81	11,530
Frank Pellegri	42	34.36	16.75	11,511
Darryl Kaiser	54	35.08	16.37	11,488
Theodore R. Baskette	100	36.43	15.73	11,458
Vernon Potts	40	34.71	16.48	11,437
J. & R. Solari	36	34.90	16.38	11,434
Philip Martin, Jr.	55	36.00	15.87	11,425
Ronald Nunn	50	35.52	16.06	11,410
Henry Pelucca	69	33.34	17.08	11,386
Joe Toste, Jr.	79	34.17	16.61	11,350
R. & J. Dondero	46	34.10	16.39	11,176
George B. Lagorio	83	34.71	16.08	11,166
C. A. Nilsson	93	32.29	17.26	11,144
Arnaudo Bros.	43	34.96	15.91	11,125
Randy Albertsen	61	34.59	16.05	11,100
Lester Rodgers	86	32.88	16.82	11,063
George B. Lagorio	125	34.19	16.15	11,044
Geo. Tomura	16	33.45	16.48	11,025
Dwayne Petz	26	29.79	18.49	11,013
Larry Pellegei	58	35.18	15.62	10,992
Robertson & Sons	85	33.08	16.60	10,983
Robert Norman	223	30.60	17.85	10,921
Albert Fonseca	40	36.31	15.03	10,915
Kiyoi Bros.	94	30.94	17.63	10,909
Dan & Jim Pellegri	225	35.48	15.37	10.903
Inter Harvest, Inc.	65	40.78	13.33	10,871
Pacific Fruit Farms	90	36.01	15.09	10,869
Tanaka Farms	75	34.22	15.81	10,820
Manuel Amaral, Jr.	35	30.59	17.68	10,814
Ronald Nunn	36	41.99	12.84	10,782

District III, Woodland

Woodland District growers produced an average of 7,479 lbs. of sugar per arce in 1971. Those grower contracts which exceeded that amount by 25 percent or more are listed below.

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
Giannoni Farms Inc.	94	41.53	16.66	13,838
John Lamont	48	44.78	15.43	13,815
Solano Farms, Inc.	71	37.80	16.86	12,743
Richard Raycraft	38	36.34	17.28	12,559
Perry Farms	16	39.37	15.84	12,473
Edgar Everett & Son Farms	191	35.69	17.38	12,403
Charles Schaupp & Son	96	36.21	16.85	12,203
Heidrick Farms, Inc.	315	35.88	16.91	12,136
Holdener & Wiegand	73	33.58	18.07	12,132
Jimmy Leong	21	39.71	15.19	12,061
L. H. Barth & Sons	20	36.05	16.62	11,982
Mrs. Wm. A. McDonald	35	35.80	16.72	11,974
Wm. L. Davey & Sons	75	37.03	16.00	11,853
Solano Farms, Inc.	71	32.46	18.22	11,833
Henry Rehrmann	91	37.99	15.54	11,810
Val Galindo	255	35.04	16.81	11,780
Frates & Shimada	30	35.08	16.72	11,730
Winston R. Peterson & Son	150	34.35	16.63	11,423
Richard Raycraft	134	35.36	16.15	11,423
Eugene G. Cain	47	31.44	17.85	11,226
Solano Farms, Inc.	69	32.75	17.11	11,211
Nishikawa Farms Inc.	39	35.93	15.59	11,203
A. H. Rominger & Sons, Inc.	75	33.55	16.61	11,183
Nihsikawa Farms Inc.	141	35.57	15.68	11,151
Perry Farms	23	32.66	17.05	11,138
K. Matsumoto & Sons	77	34.35	16.17	11,109

DISTRICT III, WOODLAND—continued

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
Robert C. Gill	55	38.72	14.33	11,097
Wm. L. Davey & Sons	33	32.26	17.12	11,049
Perry Farms	11	35.62	15.42	10,983
Schoeningh Farms	20	38.39	14.27	10,956
Ernest Dietrich	32	35.90	15.26	10,953
Mrs. Wm. A. McDonald	71	31.02	17.55	10,888
Larry B. Goetze	37	38.36	14.07	10,796
James Heidrick	68	35.36	15.25	10,787
Leroy Traynham, & Son	76	33.21	16.23	10,777
Arnold J. Collier	68	35.24	15.29	10,773
Heidrick Farms, Inc.	174	31.74	16.97	10,770
Alvernaz Farms, Inc.	16	39.68	13.46	10,685
Nishikawa Farms Inc.	137	37.68	14.16	10,671
Perry Farms	10	34.00	15.63	10,629
La Grande Farms	72	30.48	17.40	10,607
Lloyd M. Eveland	53	31.51	16.78	10,577
Ernest Dietrich	76	33.41	15.77	10,536
John Lamont	187	34.00	15.48	10,529
Guido Romani	89	34.12	15.33	10,464
Bulkley Ranch	36	30.72	17.01	10,451
Joe Gnoss, Jr.	108	28.31	18.41	10,424
E. M. Ullrich	210	31.75	16.41	10,419
Holdener & Wiegand	145	29.13	17.81	10,379
Vernon A. Mast & Sons	49	30.54	16.99	10,376
Vernon A. Mast & Sons	56	30.39	17.02	10,344
Wm. L. Davey & Sons	215	33.03	15.63	70,323
Edgar Everett & Son Farms	74	31.33	16.43	10,295
Anderson Bros.	35	31.93	16.10	10,283
Alvernaz Farms, Inc.	18	32.37	16.25	10,253
Fred Rehrman & Son	122	33.84	15.07	10,199
Holdener & Wiegand	65	30.08	16.91	10,171
Holdener & Wiegand	105	29.97	16.92	10,141
Bulkley Ranch	24	32.54	15.58	10,138
Joe Gnoss, Jr.	76	29.71	17.06	10,135
Robert G. Arens	89	29.07	17.35	10,087
Paul Stephens & Son	100	29.45	17.09	10,064
Holdener & Wiegand	44	29.92	16.66	9,971
Heidrick Farms Inc.	366	29.95	16.62	9,953
Shigaki Bros.	160	33.00	15.05	9,932
Clark Davis	42	30.34	16.32	9,899
Alfred Cruickshank	60	34.98	14.15	9,896
Richard Moore	115	28.75	17.21	9,893
Alonzo Acres	44	30.04	16.43	9,872
Alvernaz Farms, Inc.	23	31.34	15.73	9,857
Holdener & Wiegand	69	28.22	17.46	9,857
Bulkley Ranch	49	31.45	15.67	9,854
Rominger Bros.	90	29.72	16.54	9,829
Joe Gnoss, Jr.	143	28.62	17.14	9,810
Monk & Son	40	27.34	17.92	9,794
J. R. Phillips	77	28.40	17.25	9,794
Wm. L. Davey & Sons	88	30.26	16.18	9,792
La Grande Farms	94	28.74	16.95	9,742
Estate of E. L. Wallace	108	32.32	15.05	9,726
Fortes & Ancheta	137	28.62	16.97	9,712
Meek & LeMaitre, Inc.	60	31.84	15.16	9,654
Robert G. Arens	158	29.89	16.13	9,640
Jones Bros.	30	30.52	15.77	9,623
Elmer Tiahrt	87	26.74	17.99	9,622
Hatanaka Bros.	242	28.10	17.08	9,595
Arlan Moore	65	32.15	14.88	9,566
Michael B. Beeman	76	30.24	15.82	9,565
Rudy Howald	95	29.22	16.33	9,543
Wayne Hine	20	28.64	16.65	9,539
J. L. Grimm, Jr.	33	29.55	16.14	9,538
Clark Davis	26	28.74	16.59	9,534
C. M. Ordonez	77	30.18	15.78	9,526
Bulkley Ranch	32	29.34	16.22	9,520
Jesse W. Jones & Sons	45	29.61	16.00	9,474
Lloyd M. Eveland	89	29.27	16.17	9,464
Alvernaz Farms, Inc.	40	34.05	13.88	9,449
James M. Campbell	95	31.16	14.63	9,409
Hatanaka Bros.	119	30.00	15.68	9,408
Heidrick Farms, Inc.	35	28.18	16.69	9,406
Robert G. Stephens	63	31.38	14.93	9,371

District IV, Mendota

The Mendota District extends from Los Banos on the north to Bakersfield on the south. Growers in this area produced an average of 5,884 lbs. of sugar per acre in 1971. Those contracts which exceeded that amount of 25 percent or more are listed below.

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
Cozzi Bros.	141	42.99	17.43	14,989
Newhall Land & Farming Co.				
Merced Ranch	84	41.34	17.56	14,516
Redfern Ranches	85	35.93	19.85	14,263
Winston Weathers	51	43.25	16.27	14,071
Del Testa Farms	42	49.16	13.93	13,700
Newhall Land & Farming Co.				
Merced Ranch	63	38.72	17.48	13,540
Merced Ranch	72	37.59	17.79	13,376
Merced Ranch	44	36.43	17.58	12,812
Merced Ranch	53	37.14	17.05	12,667
Don Sorg	40	36.88	17.16	12,659
Newhall Land & Farming Co.				
Merced Ranch	52	37.62	16.80	12,640
Merced Ranch	18	37.47	16.82	12,604
Albert J. Catrina	78	37.45	16.67	12,487
Newhall Land & Farming Co.				
Merced Ranch	45	37.41	16.39	12,263
L. Kenneth Seibert	32	39.16	15.65	12,255
Newhall Land & Farming Co.				
Merced Ranch	108	37.26	16.42	12,238
Hugh Bennett	153	40.73	14.87	12,112
Hansen and Fortune	77	34.75	17.17	11,934
Newhall Land & Farming Co.				
Merced Ranch	47	32.07	18.45	11,831
San Juan Ranching Co.	92	35.84	16.18	11,598
Tom and Henry Naito	55	39.09	14.72	11,512
Timco-Turner Island	835	34.97	16.33	11,419
Kenneth B. Siebert Farms	74	39.36	14.45	11,372
Winston Weathers	30	32.53	17.48	11,371
Marvin D. Wooten	107	31.74	17.68	11,224

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
Wolfsen Land & Cattle	778	33.28	16.73	11,138
Sorg Bros.	121	34.25	16.07	11,008
San Juan Ranching Co.	60	34.76	15.55	10,812
San Juan Ranching Co.	68	32.45	16.62	10,785
William Fahey	157	32.35	16.55	10,712
San Juan Ranching Co.	38	32.34	16.39	10,601
Gary George	143	27.24	19.45	10,595
Del Testa Farms	34	37.12	14.26	10,588
San Juan Ranching Co.	144	29.59	17.77	10,518
George Andrew	64	36.42	14.42	10,501
George Andrew	38	35.85	14.53	10,418
Barlow Farms	20	37.66	13.83	10,415
San Juan Ranching Co.	107	29.75	17.48	10,399
Bill & Ed Koda	314	30.51	16.92	10,327
Robert Teicheira	74	32.40	15.92	10,313
Kenneth B. Seibert Farms	46	37.95	13.57	10,300
Floyd Williams	107	33.94	15.11	10,257
San Juan Ranching Co.	164	28.96	17.62	10,207
Triple M Cattle Co.	132	32.57	15.51	10,101
San Juan Ranching Co.	133	13.31	15.95	9,988
Keith Erskine	338	29.41	16.94	9,965
Vignolo Farms	44	41.16	12.10	9,959
William Des Jardins	160	28.05	17.69	9,922
Marvin D. Wooten	33	29.74	16.62	9,887
Kenneth Peelman	36	33.78	14.58	9,851
Santa Rita Ranch Co.	312	29.83	16.51	9,848
Michael Giffen Ranch	275	35..92	13.65	9,806
San Juan Ranching Co.	82	31.86	15.23	9,706
D. Lapenta Co.	49	32.50	14.91	9,695
Bonanza Farms	33	31.96	15.06	9,629
Bruno Cauzza	53	42.35	11.37	9,627
Sam & D. M. Biancucci, Inc.	142	35.50	13.54	9,614
Sorg Bros.	91	25.16	18.96	9,541
A. LoBue Farms	196	31.44	15.16	9,532
Newhall Land & Farming Co. Merced Ranch	50	28.61	16.61	9,503
Barlow Farms	33	36.14	13.14	9,499
Gary George	52	26.51	17.49	9,431
George Andrew	78	31.66	14.81	9,376
Newhall Land & Farming Co. Merced Ranch	62	28.83	16.26	9,375
W. L. Simmons	76	35.59	13.13	9,349
Kenneth McClanahan & Sons	18	30.94	15.11	9,347
L. C. George	58	26.49	17.62	9,333
Newhall Land & Farming Co. Merced Ranch	77	29.05	16.00	9,298
Jerry Ralls	215	25.19	18.37	9,254
Newhall Land & Farming Co. Merced Ranch	68	28.53	16.06	9,165
E. W. Suorez Farms, Inc.	75	32.66	13.96	9,121
Harry Banducci & Sons	27	31.51	14.35	9,046
Bonanza Farms	73	27.44	16.37	8,987
Eugene Nord	38	31.57	14.07	8,881
Charles Wolsey	46	35.35	12.54	8,867
Johnson & Johnson	90	36.77	12.03	8,845
Kenneth McClanahan & Sons	51	29.35	14.99	8,802
R & S Farms	35	30.35	14.49	8,794
Vignolo Farms	120	31.63	13.89	8,789
Wm. E. Glotz	40	30.72	14.24	8,749
Pucheu Bros. Ranches	91	29.00	15.04	8,721
Walter Willms	132	30.43	14.31	8,711
Sunshine Farms	36	32.66	13.31	8,697
Joe G. Fanucchi & Sons	57	31.90	13.59	8,671
Danco Farms	101	26.03	16.59	8,639
Keno Farms	75	33.76	12.76	8,611
Paul W. Demkey	49	34.00	12.62	8,585
Del Testa Farms	25	30.03	14.27	8,568
Hubert Beene	148	29.10	14.70	8,557
Bonanza Farms	73	25.22	16.78	8,461
Comfort and Lewis	149	22.26	18.97	8,442
Melvin Hughes	65	28.86	14.62	8,441
Jimmie Icardo	38	33.38	12.63	8,434
Joe G. Fanucchi	78	33.85	12.45	8,431
Rauph Forrest	49	34.51	12.21	8,428
Arthur J. Cuelho*	268	29.21	14.42	8,424
Gragnani Bros.	153	28.32	14.76	8,362
Spreckels Sugar Company	11	27.47	15.15	8,324
Des Jardins Bros.	120	21.91	18.93	8,294
Silveira & Peterson	54	28.15	14.66	8,257
Vignolo Farms	109	30.93	13.32	8,241
C. F. Andresen, Sr.	165	27.13	15.14	8,215
O'Banion Ranches	48	22.96	17.79	8,180
Vernon Porter	192	23.51	17.35	8,155
Joseph P. Maiorino	64	24.45	16.66	8,145
Motte Ranches, Inc.	48	28.81	14.10	8,123
Harold O'Banion	76	27.45	14.79	8,120
Gragnani Bros.*	105	25.81	15.71	8,113
W. B. Camp & Sons	69	29.20	13.88	8,106
Irwin R. Efird	102	31.37	12.91	8,100
William E. Des Jardins	82	25.60	15.80	8,089
D. T. Locke Ranch, Inc.	81	29.84	13.54	8,083
J. C. & H. H. Lewis	14	30.68	13.07	8,022
Gragnani Bros.	76	26.63	15.04	8,010
Gragnani Bros.	62	27.00	14.83	8,009
Redfern Ranches	133	25.16	15.89	7,998
Bonanza Farms	69	23.32	17.11	7,980
Fanucchi Bros.	47	26.14	15.22	7,960
Ralph Forrest	67	33.47	11.85	7,929
Harold O'Banion	96	24.94	15.87	7,915
Wm. E. Glotz	54	24.98	15.82	7,905
Roy Henson & Sons	71	31.37	12.57	7,888
Joe Garone Farms	42	36.02	10.91	7,855
Newhall Land & Farming Co. Gill Ranch	48	29.03	13.48	7,824
Martin Costales	74	29.44	13.24	7,794
Gragnani Bros.	149	30.92	12.58	7,776
Gragnani Bros.	160	29.57	13.13	7,768
Linda Vista Farms	22	27.99	13.85	7,750
Carl Sumpter	100	22.08	17.54	7,744
Fanucchi Bros.	27	25.42	15.22	7,741
Sam & D. M. Biancucci, Inc.	142	26.88	14.37	7,725
Wilmer Hedman	59	27.29	14.13	7,711
Fredlo Farms	157	29.19	13.21	7,711
Mike Silveira	117	26.06	14.77	7,697
Spreckels Sugar Company	47	24.12	15.95	7,693
Triple "J" Farms, Inc.	84	30.37	12.65	7,683
H-M-Tenneco	141	30.09	12.75	7,674
Sherman Cave	15	28.02	13.66	7,654
Herman and O. L. Walls	49	30.58	12.49	7,636
R & S Farms	33	26.13	14.59	7,623
Newhall Land & Farming Co. New Columbia	37	24.38	15.63	7,620
Little & Hanes	37	27.95	13.63	7,620
Cerro Bros.	88	40.49	9.41	7,618
Newhall Land & Farming Co. Gill Ranch	41	28.86	13.18	7,607
Locke Bros.	60	28.56	13.31	7,600
Russell Terry	10	30.23	12.65	7,650
H-M-Tenneco	10	30.23	12.65	7,650
H-M-Tenneco	149	29.93	12.58	7,528
Martin E. Mason	110	28.11	13.37	7,518
Bonanza Farms	75	24.98	14.99	7,488
Jimmie Icardo	35	33.50	11.17	7,484
Robert Cardwell	113	24.71	15.14	7,479
Triple "J" Farms, Inc.	131	28.54	13.09	7,471
Jack Jones	60	25.71	14.50	7,455
Newhall Land & Farming Co. Gill Ranch	49	26.90	13.85	7,448
K & P Farms, Inc.	65	28.96	12.83	7,429
Paul J. Crevolin	105	24.56	15.10	7,416
Pucheu Ranches	45	26.52	13.96	7,405
Comfort and Lewis	336	20.16	18.37	7,404
Icardo Bros.	81	27.36	13.48	7,375

**1970 late plant contract.*

Increased Profitability Through Nitrogen Management

By Lawrence W. Ellis

Mr. Ellis is a Field Superintendent in the Salinas Valley. His district encompasses the Salinas, Soledad, Chualar and Greenfield areas.

Low sugar content beets are a problem which has confronted a number of growers in the Salinas Valley and other beet growing areas. The prime culprit in most cases has been excessive nitrogen.

Excessive nitrogen usually arises when: (1) an abundance of residual or carryover nitrogen from the previous crop exists; (2) Nitrogen is applied during the year in excess of the sugarbeet crops' needs, and (3) irrigation water contains high levels of nitrate nitrogen.

For the past two years, some growers in my field district have participated in a nitrogen management program designed to improve sugar content. Eight growers who participated in this program in 1971 reduced their applied nitrogen by an average of 42.5 pounds per acre and their combined yields averaged 1,750 pounds of sugar per acre more than the district average. In addition, the reduced fertilizer costs and improved yields resulted in a substantial increase in net returns.

NITROGEN STRIPS

During the growing season these growers were confronted with problems of high and low residual fertility, irrigation water which contained anywhere from 0 - 100 ppm nitrate nitrogen, cold spring temperatures which retarded nitrogen utilization, and various virus diseases.

To determine the amount of residual or carryover nitrogen each field had, fertilizer strips were established. Information gained from the strips enabled each grower to sucessfully maintain a sufficient nitrogen level in his field until four to six weeks prior to harvest.

WELL WATER

Well water being used on each field was tested to determine the presence of any nitrogen. If the tests proved positive, proportionate reductions were made in the side-dress applications. In one instance a Soledad grower's well water tested 100 ppm. After an early pre-plant application, no subsequent fertilizer was found to be necessary. His beet crop yielded 46.7 tons per acre and 14.7 percent sugar.

If leaching problems were anticipated on the lighter soils, the fertilizer program was adjusted upward to compensate.

Nitrogen laden well water has become an important consideration regarding fertilizer management in the Salinas Valley. As mentioned earlier, nitrate nitrogen content of well water in this area has varied from 0 - 100 ppm. Irrigating with one acre foot of water containing 100 ppm. nitrate nitrogen is equivalent to fertilizing a field with 54 pounds of readily available nitrogen.

With the assistance of Spreckels Agronomist, George Wheatley, a number of wells were tested within a quarter-mile radius of each other in the Soledad Mission area. The data is summarized in Table I.

TABLE I

Well	*Nitrate Nitrogen p.p.m.*	*Lbs. Nitrogen Per Ac. Ft. of Water*
#1	50	27.0
#2	25	13.5
#3	30	16.2
#4	65	35.1
#5	10	5.4

The wells were located on ranches where sugarbeets are included in the crop rotation and low sugar content has been a chronic problem.

The problem of low sugar content beets is not confined to the Salinas Valley. Nitrogen management programs have been tried in other California beet growing areas and have proven very successful. Experience has shown that nitrogen requirements have to be managed on a year-to-year and field-to-field basis and some kind of approach or system for evaluating these requirements is much more profitable than a mere guess.

Questions Most Frequently Asked About Sugar

The following article was prepared by Sugar Information, Inc. of New York and answers 16 frequently asked questions about sugar. Additional information about sugar and health may be obtained from Sugar Information, Inc., P.O. Box 94, GPO, New York, N.Y. 10001.

Is there a difference between sugar refined from sugar beets and sugar refined from sugarcane?

There is no difference in the sugar refined from either cane or beet. Sugarcane and sugar beets are plants that are able to make sugar in larger quantity than any other plants. Sugarcane, a giant grass, thrives in a warm, moist climate, storing sugar in its stalk. The sugar beet grows best in a temperate climate and stores its sugar in its silver-white root. Chemically, sugar from both sources is the same.

What is raw sugar?

Raw sugar is the first transformation of harvested sugarcane to a tan or brown substance resembling coarse sand. Raw sugar is processed from the cane at a sugar mill and then shipped to a refinery. It is about 96% sucrose. Although it is sweet to the taste and pleasant smelling, it contains such contaminants as soil, fibers, molds, yeast, bacteria, lint and waxes. Moisture content is about one-half percent.

Is raw sugar sold to consumers?

No. The U.S. Food and Drug Administration notes raw sugar is "unfit for direct use as food or as a food ingredient because of the impurities it ordinarily contains."

What is turbinado sugar?

Raw sugar may be partially refined by washing in a centrifuge under sanitary conditions. Some molasses is removed in the washing process. Mineral matter, other solid matter and invert sugar are also present in turbinado sugar crystals. In total sugar content turbinado is closer to refined sugar than raw sugar.

Is turbinado sugar sold to consumers?

Yes. Turbino sugar can be purchased in many health stores and some supermarkets. It is used by some companies for the manufacture of food products. If turbinado sugar has been produced under proper conditions it is edible. However, some samples have been found to contain the same contaminants present in raw sugar. When this occurs it is in violation of U.S. Food and Drug regulations.

Can turbinado sugar be substituted for granulated sugar in recipes?

Test the recipe! Turbinado sugar has a molasses flavor so its taste may affect the recipe results. The moisture content varies between brands, so you must decide whether the sugar should be measured loosely of firmly packed.

What is brown sugar?

Brown sugar consists of sugar crystals contained in a molasses syrup with natural flavor and color components.

Most sugar refiners produce brown sugar by boiling a special syrup containing the necessary flavor and color ingredients to a mass of crystals and syrup in a vacuum pan. This mass is spun in a centrifuge, but not washed, so the sugar crystals still retain some of the syrup with its brown sugar flavor and color. Some refiners make brown sugar by adding syrup to a refined white sugar in a mixer. Brown sugar produced either way is much the same.

How can brown sugar be stored to prevent lumps?

Brown sugar is marketed in some areas in polyethylene plastic bags which can be closed snugly to retain the sugar's natural moisture. Brown sugar purchased in cardboard cartons should be stored in a cool, moist place. If you lack an ideal storage place, empty the sugar into a rust-proof container or heavy, moisture-proof plastic bag and *keep tightly closed.*

When brown sugar dries out and hardens, empty it into a rust-proof container. Place a piece of plastic wrap or foil on top of the sugar. Dampen a wad of paper towel (not dripping wet): place on the plastic wrap or foil, and cover container tightly. The sugar will absorb the moisture and become soft in 8 to 12 hours. Then remove the paper towel and *keep the container tightly closed.*

To soften brown sugar quickly, heat it in a 250° - 300° oven. Watch it carefully and as soon as it is soft measure the amount you need. When the sugar cools it will be come hard again and should be softened using the wet wad of paper method described above.

Can brown sugar be substituted for granulated sugar in a recipe?

Yes, if the flavor of the sugar does not influence the recipe results. Pack the brown sugar when measuring or you'll be using less sugar than the recipe requires.

What is the difference between confectioners' sugar and powdered sugar?

The terms refer to the same product. In the East the term confectioners' sugar is more commonly heard, whereas in the West, powdered sugar is the more common term. Years ago in New England the term "powdered sugar" was used to refer to a fine granulated sugar, similar to superfine granulated sugar sold today. Much confusion resulted.

How can powdered (or confectioners') sugar be stored to prevent lumps?

Powdered sugar should be stored in air tight containers to keep the moisture out once the box has been opened. When powdered sugar absorbs dampness and then dries, lumps form. This is why about three per cent cornstarch is added to prevent caking. (Brown sugar is the opposite because you want to *retain* the moisture.) Sift powdered sugar if lumps have formed or if the sugar has been standing in its container for a long period.

What is superfine or ultra-fine sugar?

It is a very fine-grained granulated sugar. Regular granulated sugar is used for normal baking, canning and table use, while superfine granulated is ideal for extra fine-textured cakes and meringues, sweetening fruits and iced drinks.

Are sugar cubes available in more than one size?

Yes, there are small cubes equal to one-half teaspoon sugar and larger cubes containing approximately one teaspoon sugar per cube.

What nutrients are present in sugar?

The nutrient in sugar and most other sweeteners is limited almost entirely to carbohydrate. These nutriitve sweeteners are an important part of the body's total food energy supply. They also have an important role in making many foods taste more palatable. Vitamins and minerals are sometimes present in minimal amounts. That is why sweeteners are impractical as a source for adequate daily intake of necessary nutrients.

What is honey?

Honey is essentially an invert sugar with a small, but variable, excess of levulose. It is formed by an enzyme, honey invertase, from nectar gathered by bees. Honey varies in composition and flavor, depending on the source of the nectar (clover, orange blossom, sage, etc.) A typical analysis of honey would show (exclusive of undetermined substances): 34% dextrose, 42% levulose, 2.42% sucrose, 18.30% water, 0.08% acid and 0.15% ash.

Is honey more nutritious than granulated, powdered or brown sugar?

A tablespoon of honey has more calories and carbohydrate content than granulated, powdered or brown sugar. It has less calcium, phosphorous and iron than brown sugar. Honey contains minimal amounts of thiamin, riboflavin and ascorbic acid. These small amounts of vitamins and minerals in honey make it no more practical than sugar as a source for adequate daily intake of necessary nutrients.

NEW TEXT

Advances In Sugarbeet Production Principles And Practices

Under the sponsorship of the Ortho Division of the Chevron Chemical Company, a Sugarbeet Congress met in Salt Lake City, Utah, to discuss the various agricultural principles involved in production of quality sugarbeets. The ideas presented there by the leading authorities from education, industry and government are presented in this authoritative volume, the most complete and up-to-date reference on sugarbeet production.

Discussion includes such important topics as the various interactions of environment and genetic composition; historical background; seed production; variety development; economic importance; insect, disease and weed control; nutrition; and cultural practices. The book also traces the progress of sugarbeet production from the high hand labor requirements of the past to the almost complete mechanization of today and examines the means by which it is possible to grow the sugarbeet in the current high cost labor market. One hundred twenty eight illustrations round out this comprehensive volume. The 444 page text, which was edited by Russell T. Johnson, John T. Alexander, George E. Rush and George R. Hawkes, is available from The Iowa State University Press, Ames, Iowa 50010. Price $12.50.

NEW POSITION FOR VERN SHERWOOD

Vernon D. Sherwood, formerly Field Superintendent in Kings and Tulare Counties, was appointed a Farming Superintendent this past year in the spring harvest area of Central Arizona.

Vern joined Spreckels Sugar Company in February, 1953, as a Field Superintendent in District III, Woodland. In 1955, he was transferred to District I, Salinas, where he served until 1963. In April of that year he was transferred to District 4, Mendota, and assumed Field Superintendent responsibilities for the Goshen and Octol Districts.

He is a native of Sanger, California, and attended the University of California at Berkeley, where he majored in Agricultural Economics. He served three years in the United States Marine Corps as a Military Policeman.

Vernon, his wife Barbara, and their family now reside in Mesa, Arizona.

DALE COMER TO ARIZONA

Dale R. Comer, Research Agronomist in District IV, Mendota, has been transferred to Chandler, Arizona. Dale will assume the agronomic research responsibilities formerly handled by Charles Stanger, who has resigned to accept a position on the research staff at Oregon State University.

Dale joined Spreckels' agricultural staff at Mendota in September, 1969, as a Research Agronomist. His activities have primarily been concerned with chemical weed control in sugarbeets.

He is a native of Fresno, California, and attended Fresno State College where he majored in Agricultural Science. He also attended the University of Arizona where he attained a Master's Degree in Agronomy.

He is a member of the American Society of Sugarbeet Technologists and the Weed Society of America.

Dale and his wife, Suzanne, will reside in Tempe, Arizona.

FRANK HUNT TO MENDOTA

Frank N. Hunt, formerly Field Superintendent for the Kern County field districts of Arvin and Conner, has been transferred to Mendota where he will resume his Field Superintendent's responsibilities in the Madera and Kerman areas.

Frank joined Spreckels in March, 1968, as an Assistant Field Superintendent at Mendota. He was subsequently promoted to Field Superintendent in September, 1968, and transferred to the Bakersfield area.

He is a native of Glendale, Arizona, and attended the University of Arizona where he majored in Agricultural Science. A Vietnam veteran, he served a two-year tour of duty in the Navy as a Gunfire Officer.

Frank, his wife Mary, and two children now reside in Madera.

JERRY A. SAGASER TO BAKERSFIELD

Replacing Frank Hunt in the Arvin and Conner field districts will be Jerry A. Sagaser, who was formerly a Field Superintendent in District III, Woodland.

Jerry joined Spreckels Sugar in June, 1966, as an Assistant Field Superintendent in the Woodland District. In May, 1967, he was promoted to Field Superintendent and assigned a field district in the Woodland area.

He was farm-reared at Avenal, California, and attended Fresno State College and the University of California at Davis. He graduated from the latter in 1966 with a major in Agricultural Business Management.

Jerry and his wife Margaret now reside in Bakersfield.

TERRY R. TALBOT PROMOTED

Terry R. Talbot, formerly an Assistant Field Superintendent in District II, Manteca, was recently promoted to Field Superintendent and transferred to District III, Woodland. He joined Spreckels Sugar in February, 1971, at Manteca.

In his new capacity, Terry will be responsible for the field district formerly occupied by Jerry Sagaser.

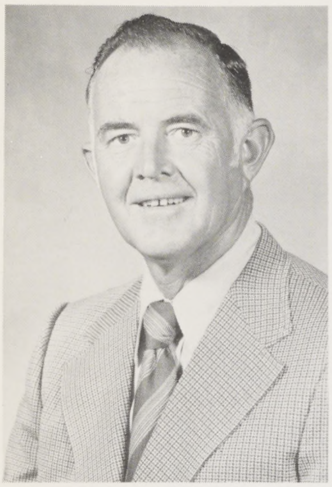
He is a native of Fresno, California, and a graduate of Fresno State College, where he majored in Agronomy. While attending Fresno State, he became a member of the Alpha Zeta Fraternity.

Terry, his wife Alice, and son now reside in Woodland.

GERALD KLEY PROMOTED

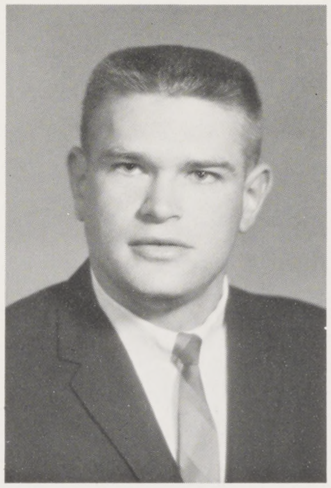
Gerald R. Kley, formerly Assistant Field Superintendent in Central Arizona, has been promoted to Field Superintendent and assigned a district encompassing the Buckeye and West Phoenix areas. Gerald replaces Gary M. Allen, who resigned to accepted a position with an Arizona farming operation.

(Continued on next page)



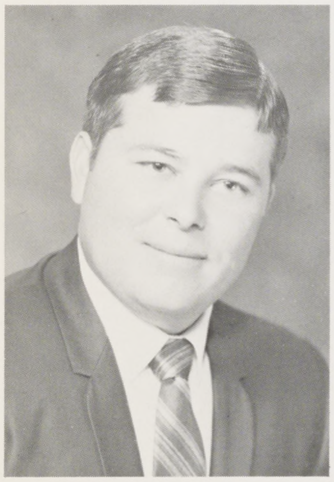
Vern Sherwood

Dale Comer



Frank Hunt

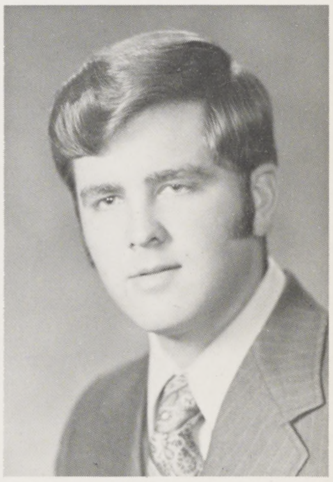
Jerry Sagaser



Terry Talbot

Gerald Kley

Dan Brown



Ken Morris

Gerald is a native of Arbuckle, California, and a graduate of Fresno State College, where he majored in Agronomy.

Gerald, his wife Sharon, and family reside in Tempe, Arizona.

DANIEL BROWN JOINS WOODLAND STAFF

Daniel E. Brown recently joined the Spreckels Agricultural staff in District III, Woodland, as an Assistant Field Superintendent. Dan will work with the field and research staffs.

He is a native of Manteca, California, and a graduate of California State University at Fresno where he majored in Agronomy. He also served as a Military Policeman in the United States Marines.

Dan and his wife Karen now reside in Woodland.

NEW STAFF ADDITION AT MANTECA

Kenneth L. Morris, Jr., is the newest member of Spreckels' agricultural staff in District II, Manteca. As an Assistant Field Superintendent, he will work with the field and research staffs.

Ken hails from Woodland, California, and attended California State University at Chico, where he majored in Agricultural Business Management.

Ken and his wife Bobbie now reside in Modesto.

(Continued from page 5)

and stubby root nematode during the late 1950's. These approaches are now showing potential in heavy soils where sugar beet nematode is a problem. Further, there is long range potential in the direction of tolerant varieties as the USDA program headed by Dr. Savitsky is demonstrating. Fumigation techniques seem to offer the most immediate hope, however.

The escape or no-host method for virus yellows control has been practical but it is expensive and requires careful sanitation programs and expensive cross hauling of beets from one factory area to another. A workable insecticide and resistant varieties could greatly reduce production risks in the years following a big crop and would greatly reduce the freight costs currently required in the present area planting and harvest program. Future research efforts will be intensified in this direction.

The problem of improved beet quality is an important many-faceted challenge for improvements involving nitrogen management, handling, transportation, and disease control are needed. Improvements are also needed with regard to rot organisms and in variety improvement programs designed to reduce harmful impurities.

There are many insect species which resist presently available insecticides. Regulations preventing the use of effective insecticides also hamper control efforts. The use of DDT for worm control, for instance, is now banned but was a very effective material against the worm threat twenty years ago. Nothing as satisfactory is currently available as a replacement. Mites can be a problem and the most effective miticide, Kelthane, was taken away over a year ago so new approaches will be needed. Curly top injury is always a threat in some areas and the best approach for prevention of curly top loss seems to lie with cooperative programs involving varietal tolerance, systemic insecticides, and the State Leaf Hopper Control Program.

The last factor, weed control, will probably always be with us since no single herbicide is completely effective. Further, we must recognize that the minor weed problems of today that resist present herbicides will be come the major weed problems of tomorrow.

It seems that the improvements in production levels obtained in the past 20 years provide ample testimony to the value of agricultural research. There is ample evidence showing that commercial research programs cannot be fully utilized unless the research organization is aware of the economic limitations and commercial utilization of the products from research. I hope that this favorable balance of cooperative public agency, and commercial research and production groups can be continued in the same manner in the years ahead.

* * *

NEW HOME. *The Spreckels Sugar Division is now headquartered in the Union Bank building at 50 California Street in San Francisco (pictured above). The move from the old headquarters at 2 Pine Street was made last December.*

SALINAS PUBLIC LIBRARY

SPRECKELS SUGAR BEET BULLETIN

PUBLISHED AS A SERVICE TO CALIFORNIA AND ARIZONA SUGAR BEET GROWERS

MR 4 '74

NEW WORLD'S RECORD

See Page 19

General News and Comment

Spring Harvest — After thirteen long and arduous months, the 1972 crop harvest in Northern California was finally completed in early August, 1973.

Record shattering tonnages, coupled with unexpectedly heavy rainfall, brought about the latest spring harvest ever experienced and made it the first time that completion of a spring harvest and the beginning of a fall harvest have merged. Considering the size of the 1972 crop and the amount of time required to get it harvested and processed, the sentiment of most of those involved can probably best be expressed by the popular phrase, "I can't believe we ate the W-H-O-L-E thing!"

Thanks are certainly due all growers for the understanding and cooperation extended to the field staff in achieving what at times looked like a rather overwhelming task.

Record Crop — The 1972 crop in the Northern California districts of Salinas, Manteca, Woodland and Mendota produced a new record of 28.5 tons per acre. Sugar content averaged about 14 percent. The best previous crop occurred in 1970 when the same districts produced a combined average of 26 tons per acre.

Imperial Valley — Harvest of Imperial Valley's 1972 crop was also completed in early August. The Imperial crop was second only to that produced in 1970 of 27.8 tons per acre and 16.5 percent sugar. The crop just harvested averaged 27.2 tons per acre and 15.5 percent sugar.

Central Arizona — Central Arizona's crop, which was planted in the fall of 1972, averaged 23 tons of beets per acre and 15 percent sugar. That is an average of almost 3.5 tons of sugar per acre and represents the finest crop ever grown in Central Arizona.

Farmers' Food Dollar Share — Feeding an urban household was estimated to have cost over $1,653 (annual rate) as of August 1973 . . . or $328 more than the year before. Most of the added dollars went to farmers, boosting the farm value of a market basket of foods to $835, up 58% from August 1972. Farmers thus received 50¢ of each $1 consumers spend on food.

Food Expenditures — Despite the drop in per capita food use, higher food prices are expected to push total food spending up some 15% over 1972's $125 billion. And because the spending rise will be greater than gains in disposable personal income, it's very likely the share of income spent for food in 1973 will increase for the first time in 15 years.

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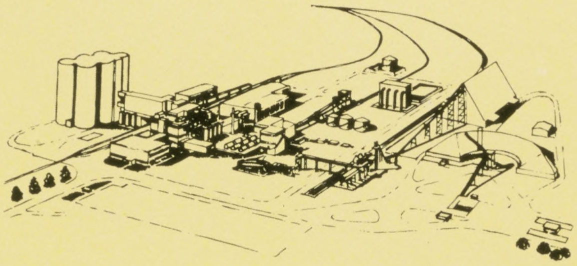
VOL. 36 1973 No. 2



Gerald Nordstrom .... *Editor*

Agricultural Department—Spreckels Sugar Div.

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J. M. Kendrick .... *Agr. Manager*

District Managers

Byron Larsen .... *District I, Salinas*

Stewart Anderson .... *District II, Manteca*

Don Hefner .... *District III, Woodland*

Dan Dieter .... *District IV, Mendota*

Ralph Lambdin .... *District V, Arizona*

Spreckels Sugar Beet Bulletin is published by the Agricultural Department of the Spreckels Sugar Division, Amstar Corporation, as a service to its growers. Mention of specific methods, devices and implements does not constitute an endorsement by the publisher. Please address all communications to: Spreckels Sugar Beet Bulletin, 50 California St., San Francisco, California 94111. Please include your zip code.

COVER: Pictured from left to right are Dr. John McFarlane, Jon Giannini, Andy Christensen and Field Superintendent Harold Voth. Stacked behind them is 17,501 lbs. of sugar which represents what Jon and Andy produced from each acre of their record-breaking crop. *(See article on page 19)*

The Printer, 707 2nd Street
Davis, California 95616

Field Superintendent Richard Heimforth (left) and Pete Del Testa are shown discussing Pete's cropping plans for 1974.

PETE DEL TESTA

Stability and Profitability Make Sugarbeets a Good Bet in 1974

Tranquility grower Pete Del Testa figures that, in a race between a hare and a tortoise, the wise man places a small wager on each.

It's getting on to that time of year when farmers throughout the San Joaquin Valley place their biggest "bets" of the year: deciding which crops to grow . . . which ones to pass up.

The recent spectacular increases in cotton prices and feed grains will influence many decision, but Del Testa figures it doesn't make sense to put all his eggs in one basket.

"What goes up fast can come down fast, too," the veteran farmer said when queried about the place of sugar beets in his production plans.

"Sure, that 70-cent cotton looks mighty good," he agreed. "Sugar prices haven't done anything that dramatic. But over the years they've shown a steady increase."

"I grew my first crop of beets back in '58 or '59 and have had them every year since," Del Testa recalled. He said sugar was worth "about $4 a hundredweight to the grower in the late '50s and currently returns are close to $10."

To Del Testa a major factor in crop selection is crop rotation: "Keeping your yields up on every crop you grow — and rotation is the essential — is the farming practice none of us can afford to forget," he said.

That Del Testa practices what he preaches is attested to by Spreckels Sugar's field superintendent Richard Heimforth of Mendota. "Pete's yields are consistently 5 to 10 tons higher than the average for his area of heavy clay soils."

Del Testa said his net returns from beets merits no disappointment. "For the last several years I've made more from sugar beets than I have from cotton," he figured. He attributed the improved profitability

(Continued on page 24)

Seventy-five years ago, Claus Spreckels formed the company that still bears his name and built near Salinas, the factory pictured above.

SPRECKELS

75 Years of Service To the Beet Sugar Industry

In the latter half of the nineteenth century, Claus Spreckels, after rising from a grocery store clerk to become a dominant refiner of Hawaiian cane sugar on the Pacific Coast, turned his attention to the possibilities of extracting sugar from sugarbeets which could be grown in California. He went to Magdeburg, Germany, and there he studied the beet sugar industry by working in factories. His training completed he brought back to California a supply of sugar beet seeds, and selected experts to make trial plantings. By keeping careful records of the results of these plantings, he was able to determine the best potential areas for growing sugarbeets, one of which was the Salinas Valley.

He then surveyed the state for possible factory sites, settled on nine, and in 1887 chose Watsonville for the location of his first factory. Claus Spreckels' thoroughness and foresight are underlined by the fact that during the next 60 years a factory was erected on each of the nine sites he had considered suitable.

Spreckels' Watsonville factory began operation in 1888 under the name of the Western Beet Sugar Company. It produced raw sugar which was refined to pure granulated sugar in his California Sugar Refinery in San Francisco. Each year its capacity was enlarged until in 1896 it processed 155,000 tons of beets and produced more than 19,000 tons of raw sugar.

In 1898, Spreckels formed the company that still bears his name, dismantled the Watsonville factory, and built near Salinas what was then the world's largest beet sugar factory, capable of processing 3,000 tons of beets per day. From its first year of operation until the present, the Salinas factory has never missed a year's production. It has been modernized over

(Continued on page 24)

November 6, 1941

Spreckels Sugar Company
California Fruit Building
Sacramento, California

Gentlemen:

You no doubt have become so accustomed to receiving communications from sugar beet growers that register some form of complaint that a letter of commendation may appear to be somewhat unusual.

I have been a sugar beet grower for about twenty years in the Sacramento Valley and have seen it develop from a hit and miss hazardous crop to one of the soundest and most profitable of all our field crops.

I do not think the average grower either realizes or appreciates the many valuable services which you have been giving to them through your public service department and in your research work. These services are taken more or less for granted, but we older growers know that they were not always available, and realize that they are maintained as a growers service at considerable expense to your company. They are largely responsible for eliminating many of the former hazards of beet growing.

To mention all of these benefits would take up too much time and space but I believe some are so outstanding that they cannot go unmentioned. For example — we now have access to the remarkable forecasting work of Dr. L. D. Leach of the College of Agriculture at Davis, which forecasts to an uncanny degree of accuracy the amount of sclerocium rolfsi fungus in our soils before we plant our beets. This work, paid for entirely by the sugar company, has saved growers hundreds of thousands of dollars of beet losses and prevented many crop failures.

Your moisture testing and irrigation advisory department has been instrumental in getting better yields by more accurate timing of irrigations and by eliminating a lot of guess work.

Most of us who have been growing beets for some time are personally acquainted with your entomologist, E. A. Schwing, but few of us realize what he has done for agriculture in general and beet growers in particular in his ceaseless fight against the disastrous Eutettix or beet leaf hopper. We know that Schwing had the Eutettix on the run when the resistant seed was first introduced, and we know also that resistant seed is not the whole answer to the beet blight problem, which used to make beet growing so hazardous that profits were well nigh impossible.

I will not go into detail on all of the services your company is supplying to growers, but to mention a few, there is your contribution to the machinery research fund which bids fair to revolutionize the methods of growing of beets; the Krick long-range weather forecasting service and your Sugar Beet Bulletin which keeps the growers informed. Then too, there is your labor department, which assists growers in obtaining satisfactory labor.

These and many other services are ours and we should pause occasionally to tell you that we want you to carry on with the good work and appreciate the opportunity of having access to them.

Yours, for a better understanding between grower and processor.

Sincerely,

Bill Duffy

W. J. DUFFY, JR.

EDITOR'S NOTE: W. J. Duffy, Jr., 81 years young and a former Sutter Basin sugarbeet grower, recently sent us a copy of a letter he had written to the company in 1941. Spreckels is proud of the relationship it has had with its growers over the past 75 years and it is with a great deal of pride that we share Mr. Duffy's letter with our readers.

Most Common Weed Control Methods and Materials Used On Sugarbeets -- California and Arizona

PLANTING PERIOD	HARVEST PERIOD	PREPLANT INCORPORATED	PRE-EMERG. RAIN or SPRINK.	POST EMERGENCE	LAYBY
DISTRICT 1 *SALINAS* 12/1-3/1	8/15-11/15	Seldom Used	Pyramin 4 lbs.	Pyramin Plus Betanal	Seldom Used
DISTRICT 2 *MANTECA* 2/1-6/1	9/1-5/15	RoNeet or Tillam at 4-6 lbs./ac.	Some TCA and Pyramin	Pyramin Plus Betanal Bet. + Dal.	Treflan at ½-¾ lb/ac. Eptam on Occasion
DISTRICT 3 *WOODLAND* 2/1-6/15	9/15-5/15	RoNeet or Tillam at 4-6 lbs./ac.	Some TCA and Pyramin at 6-8 lbs/ac. & 4 lbs. Res.	Pyramin Plus Betanal Bet. + Dal.	Treflan at ½-¾ lb/ac. Eptam Occasionally
DISTRICT 4 *MENDOTA* *KERN COUNTY* 10/10-5/15	7/1-5/15	RoNeet from 2/15 to 5/15 Some Pyramin Earlier	Pyramin 4 with or without TCA. Some Endothal	Pyramin Plus Betanal Bet. + Dal. End. + Dal. Dalapon-3	Treflan at ½-¾ lb/ac. Some Eptam on Occasion
IMPERIAL VALLEY 9/1-10/20	5/1-7/15	RoNeet - 4	TOK	Betanal Pyramin Plus	IPC for Vol. Grain
DISTRICT 5, *ARIZONA* *Spring Harvest Area* 9/1-11/15	5/15-8/1	RoNeet - 2	None	Betanal	IPC for Vol. Grain
DISTRICT 5, *ARIZONA* *WILLCOX* 2/15-5/1	10/1-12/1	RoNeet - 4	None	Betanal	Treflan at ½-¾ lb/ac. Eptam at ½ lbs for Treflan Resistant Weeds

NOTES: Ro-Neet and Tillam are most widely used from February 15 to June 1. Pyramin with TCA is used under sprinklers or when rain is expected. Post emergence usages are as follows: Endothal at 1 lb. + Dalapon at 2 lbs + 0.5% wetting agent. Very effective against volunteer grain and can be applied by air. Most effective from December to mid-February. Pyramin-Dalapon-wetting agent is very effective when applied during cold damp weather. Under very dry conditions Betanal works better. From April on the weed spectrum changes to summer annuals and post emergence treatments fail.

1972 Crop Honor Roll

District I, Salinas

Growers in the Salinas Valley Area produced a new record of 36.57 tons of beets per acre. Sugar production averaged 10,210 pounds per acre. Especially noteworthy was Christensen & Giannini's world record crop of 17,501 pounds of sugar per acre.

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
Christensen & Giannini	30	62.40	14.02	17,501
A. L. Noll Farms, Inc.	22	51.72	16.46	17,023
Lindeleaf Farms	42	50.95	16.30	16,612
Hansen Farms	55	61.40	13.44	16,499
Obata Bros.	34	56.61	14.01	15,867
Robert Lindeleaf	51	47.50	16.35	15,532
Joe Seimas	1	58.60	13.10	15,348
Manzoni Bros.	24	58.72	12.96	15,221
Ervin Robascotti	27	52.39	14.42	15,411
Harden Farms of Calif.	260	48.60	15.45	15,014
Bengard & Smith	32	53.35	13.87	14,798
Wm. Whitney	30	48.53	15.20	14,785
Peter Vucovich	9	46.30	15.69	14,533
Rick Silvera	1	59.33	12.19	14,462
Soilserv, Inc.	3	52.46	13.76	14,440
John D. Mahoney	18	51.42	13.96	14,353
Latasa Bros.	36	47.20	15.13	14,283
Wm. Whitney	62	49.39	14.38	14,201
A. L. Noll Farms, Inc.	23	43.21	16.23	14,024
Bengard & Smith	31	45.26	15.34	13,883
James H. Watson	38	44.41	15.62	13,870
Obata Bros.	73	45.35	15.27	13,852
Latasa Bros.	82	44.66	15.50	13,841
F. J. Martin	48	44.13	15.44	13,627
J. J. & H. Violini	18	59.12	11.50	13,595
Porter Berry Farm	33	45.46	14.93	13,578
A. F. Silvera & Sons	23	48.95	13.86	13,572
H. & E. Chistensen	17	48.17	13.83	13,324
Bennie Yamane	35	45.23	14.62	13,229
H. & E. Christensen	16	50.89	12.95	13,185
A. F. Silveira & Sons	47	42.29	15.57	13,171
Wm. Whitney	42	44.88	14.61	13,112
Evelyn Andersen	50	40.39	16.20	13,088
Roy W. Johnson	50	46.23	14.14	13,070
Bennie Yamane	35	49.66	13.12	13,029
Ning Young & Son	35	43.46	14.95	12,992
Roy Uyeno	105	48.19	13.47	12,986
Lindeleaf Bros.	48	42.01	15.32	12,867
Joe P. Alves	13	44.67	14.38	12,848
Wm. D. Crinklaw	187	45.37	14.15	12,844
Richard Morgantini	80	41.60	15.43	12,843
C. C. Duncan & Son	59	43.63	14.71	12,833
Jack Ferrasci	53	41.94	15.22	12,711

District I, Imperial Valley

The 1972 Imperial Valley Crop harvested in late Spring and early Summer, produced an average of 8,403 lbs. of sugar per acre. Those contracts which exceeded that average by 25 percent or more are listed below.

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
Lerno Bros.	13	48.26	17.09	16,495
Brawley Ranches, Inc.	30	46.80	16.98	15,893
Jackson Produce	27	42.86	16.31	13,981
Stanley Mitosinka	48	42.50	16.34	13,889
Freshpict Foods, Inc.	30	40.50	15.91	12,887
Fritz Kuhn, Jr.	57	37.83	16.48	12,469
Gritz Kuhn, Jr.	48	36.50	17.05	12,446
Freshpict Foods, Inc.	36	40.20	15.05	12,100
Jack Bros. & McBurney, Inc.	83	38.65	15.50	11,981
Freshpict Foods, Inc.	33	38.95	15.02	11,700
Neil Fifield Co.	28	40.80	14.08	11,489
Mamer Ranches	130	36.40	15.17	11,044
Freshpict Foods, Inc.	22	36.62	15.06	11,030
John H. Borchard	139	33.70	16.15	10,885
Davis V. Beauchamp	77	35.60	15.14	10,780
Bill Weist	136	36.07	14.93	10,771
Stanley Mitosinka	68	38.08	14.10	10,738
John R. Benson Farms, Inc.	44	37.70	14.20	10,707

District II, Manteca

Manteca District Growers produced an average of 9,004 pounds of sugar per acre from beets harvested in the period beginning Fall, 1972, and ending early Summer, 1973. Tonnage averaged a record 32.3 tons of beets per acre.

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
A. & M. Farms	53	45.56	15.43	14,060
Alan Giovannoni	49	51.92	13.51	14,029
Alvarez Bros.	18	53.70	12.98	13,941
Ronald Nunn	25	47.05	14.47	13,616
Joe Toste, Jr.	70	47.10	14.68	13,829
John Michelena	76	48.92	14.12	13,815
Ronald Nunn	36	49.49	13.95	13,808
Ronald Nunn	25	47.05	14.47	13,616
Joe Toste, Jr.	64	49.26	13.56	13,359
Melvin A. Baumbach	15	46.33	14.25	13,207
George Silva	128	42.17	15.65	13,199
James R. Nilsson	70	47.34	13.94	13,198
John J. Carvalho	71	49.18	13.36	13,141
The Garin Co.	49	47.46	13.81	13,108
Frank & Steve Solari	36	43.36	14.87	12,895
Charles Tanioka	85	47.13	13.62	12,838
Dan Brandstad	72	44.64	14.31	12,778
John Narducci	76	44.39	14.38	12,768
James R. Nilsson	35	44.50	14.12	12,567
Westing Farms	120	41.65	15.02	12.512
Pacific Fruit Farms	101	45.09	13.83	12,472
Joe Escobar, Jr.	21	44.56	13.82	12,316
Inter Harvest, Inc.	108	45.51	13.50	12,288

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
C. A. Nilsson	55	42.74	14.37	12,283
Martin Enos, Jr.	49	36.67	16.70	12,248
Dan & Jim Pellegri	219	45.76	13.32	12,190
Marion Sanchez Farms	110	38.26	15.90	12,167
Alvarez Bros.	114	46.86	12.85	12,043
Frank & Steve Solari	70	39.97	15.05	12,033
Richard C. Medeiros	88	41.65	14.33	11,937
Manuel Oliveira	54	40.10	14.84	11,902
John Vignolo	25	41.33	14.39	11,895
George Biagi	80	40.98	14.40	11,802
John Mancuso	45	40.70	14.39	11,713
Alvarez Bros.	51	46.19	12.61	11,649
Thorkelson Ranches	38	39.10	14.83	11,597
Dino Flor	60	48.00	12.06	11,578
Walt Williamson	46	40.85	14.13	11,544
John Pereira	14	48.19	11.93	11,498
Darryl Kaiser	100	40.35	14.22	11,476
Joseph Madruga	52	40.26	14.23	11,458
Marcucci & Mussi	145	46.47	12.31	11,441
Wallace & Norris	80	43.01	13.29	11,432
Joseph Madruga	34	39.56	14.44	11,425
Westing Farms	92	36.34	15.67	11,389
Takemori Bros.	50	39.73	14.32	11.379
C. A. Nilsson	85	39.90	14.15	11,292

District III, Woodland

Growers in the Woodland District produced a record 28 tons of beets per acre and an average of 7,835 pounds of sugar per acre. Noteworthy was Marino Romani's crop of 14,612 pounds of sugar per acre which is the highest ever achieved by a Woodland grower.

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
Marino Romani	65	47.26	15.46	14,612
Richard Raycraft	43	47.99	14.00	13,438
Rodolfo Lozano & Sons	34	39.98	15.63	12,498
Stephen H. Hand	20	39.99	15.06	12,044
William E. Duncan	53	38.71	15.36	11,892
Val Galindo	54	39.72	14.96	11,884
Mrs. William A. McDonald	45	45.28	13.10	11,864
Alonzo Acres	49	40.76	14.26	11,624
James M. Campbell	70	40.99	14.13	11,584
K. Matsumoto & Sons	35	50.16	11.47	11,506
Shigaki Bros. Inc.	154	34.28	16.48	11,368
Solano Farms Inc.	176	39.09	14.48	11,320
A. C. Alonzo	67	41.29	13.65	11,272
A. C. Alonzo	146	38.83	14.51	11,268
J. R. Phillips	93	37.83	14.83	11,220
Val Galindo	287	37.91	14.74	11,176
Henry Rehrmann	118	36.81	15.17	11,168
Chesini Bros.	75	35.09	15.91	11,166
Alonzo Acres	78	37.04	15.07	11,164

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
Wm. L. Davey & Sons	77	38.86	14.28	11,098
Perry Farms	17	41.84	13.23	11,070
Victor McCullough & Son	52	40.35	13.63	11,000
Richard Raycraft	37	37.15	14.74	10,952
Oji & Pires	92	35.61	15.29	10,890
Ernest J. Weyand	39	39.53	13.76	10,878
Holdener & Wiegand	74	37.24	14.58	10,860
Jesse W. Jones & Son	27	41.33	13.13	10,854
Jesse W. Jones & Son	74	38.66	13.97	10,802
Paul Evanikoff	44	35.32	15.28	10,794
John B. Anderson	30	37.46	14.38	10,774
Angel Holding Co.	106	38.81	13.84	10,742
Heidrick Farms Inc.	50	38.29	13.98	10,706
Joe Gnoss Jr.	40	40.37	13.23	10,682
Mrs. William A. McDonald	38	37.61	14.17	10,658
K. Matsumoto & Sons	50	38.50	13.84	10,656
John Lamont	130	31.47	16.91	10,644
Wm. L. Davey & Sons	22	35.47	14.99	10,634
Michael Beeman	44	37.11	14.32	10,628

DISTRICT III, WOODLAND—continued

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
John M. Lear	100	37.34	14.22	10,620
Heidrick Farms Inc.	202	37.95	13.99	10,618
Martinelli Bros.	102	36.91	14.34	10,586
Terry Schroeder	47	35.64	14.85	10,586
Rodolfo Lozano & Sons	113	36.77	14.33	10,538
Angel Holding Co.	88	36.71	14.21	10,432
Giannoni Farms Inc.	78	37.20	13.93	10,364
Alvernaz Farms Inc.	100	34.41	15.04	10,350
George L. Soares	51	39.00	13.23	10,320
Perry Farms	27	39.10	13.11	10,252
Winston Peterson & Son	30	38.10	13.44	10,242
Buchignani & Hughes	142	32.23	15.87	10,230
Charles Schaupp & Son	47	35.53	14.38	10,218
Mrs. William A. McDonald	36	33.64	15.18	10,214
Solano Farms Inc.	87	35.91	14.20	10,198
James Tarke	122	35.92	14.17	10,180
Manuel Bastiao	33	36.82	13.78	10,148
Sagara Bros.	72	37.87	13.25	10,112
Wm. L. Davey & Sons	111	35.05	14.42	10,108
Catherine Strehle & Son	24	38.29	13.19	10,100
Charles Schaupp & Son	57	35.45	14.22	10,082
James Walker & Sons	36	37.18	13.52	10,054
Shimada Farms	41	33.96	14.79	10,046
Sagara Bros.	75	34.44	14.56	10,028
Agrivest Corp. & John C. Williams	61	32.19	15.55	10,012
Val Galindo	33	34.92	14.33	10,008
Newhall Land & Farming Co.	151	31.61	15.81	9,996
Criste & Blixen	118	34.64	14.42	9,990
Schroeder Bros.	74	34.70	14.39	9,986
John B. Anderson	52	35.57	13.99	9,952
Oji & Pires	140	39.78	12.51	9,952
Giannoni Farms Inc.	78	33.62	14.79	9,944
Deseret Farms of Calif.	47	34.25	14.45	9,898
Hatanaka Farms	95	34.67	14.24	9,874
Fred Rehrman & Son	99	34.01	14.49	9,856
Jimmy Leong	71	35.63	13.82	9,850
Schneider Fricke & Schneider	102	35.04	14.05	9,846
Arnold A. Collier	71	33.00	14.87	9,814
Hatanaka Farms	99	33.69	14.55	9,804

District IV, Mendota

SPRING HARVEST AREA — *The Spring Harvest Area of Dos Palos and Los Banos produced an average of 8,522 pounds of sugar per acre. Congratulations to the Cozzi Bros. for achieving top spot on the Honor Roll two years in a row.*

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
Cozzi Bros.	175	44.88	15.20	13,648
San Juan Ranching Co.	69	36.24	17.18	12,455
Sorg Bros.	45	35.63	17.27	12,310
Carl Sumpter	100	37.96	16.22	12,310
Robert Teicheira	53	41.09	14.91	12,254
William Des Jardins	36	39.67	15.42	12,236
Von Allman & Son	141	37.82	15.93	12,053
Santa Rita Ranch Co.	300	40.14	14.92	11,979
San Juan Ranching Co.	90	37.17	15.56	11,568
William Des Jardins	140	34.51	16.38	11,304
Newhall Land & Farming Co. Merced Ranch	56	34.37	16.31	11,209
San Juan Ranching Co.	119	35.24	15.84	11,165
Albert J. Catrina	105	36.92	14.91	11,006
Hugh Bennett	90	38.86	14.12	10,970
Newhall Land & Farming Co. Merced Ranch	101	34.31	15.75	10,806
Sano Brothers	96	33.68	15.89	10,706
San Juan Ranching Co.	65	33.12	16.16	10,701
Newhall Land & Farming Co. Merced Ranch	80	32.41	16.47	10,674

FALL HARVEST AREA — *The Fall Harvest Area extends from Madera and Firebaugh on the north to Kern County on the south. Growers in this area produced an average of 7,075 pounds of sugar per acre.*

Grower	Acres Harvested	Tons Per Acre	Sugar Percent	Lbs. Sugar Per Acre
D. T. Locke Ranch, Inc.	44	41.82	16.18	13,531
Silveira and Peterson	65	42.68	15.39	13,133
Marchini Bros.	38	43.32	14.97	12,973
Pucheu Bros. Ranches	72	43.26	14.77	12,780
George Andrew	247	46.57	13.68	12,744
Harris Farms, Inc.	168	43.78	14.33	12,546
Kenneth Peelman	37	43.45	14.43	12,541
Martin Costales	116	42.53	14.72	12,519
Wilmer Hedman	36	42.04	14.84	12,475
Martin Costales	41	40.75	15.27	12,444
Delmar Mettler	51	43.51	14.14	12,305
Eugene Nord	18	44.54	13.75	12,245
Walter Willms	98	40.35	15.00	12,106
Del Testa Farms	50	42.09	14.24	11,984
Vignolo Farms	76	39.94	14.87	11,879
Floyd Williams	118	43.46	13.59	11,816
Kenneth Peelman	41	40.51	14.46	11,716
Gragnani Bros.	113	38.11	15.24	11,619

DISTRICT IV, MENDOTA—continued

Grower	*Acres Harvested*	*Tons Per Acre*	*Sugar Percent*	*Lbs. Sugar Per Acre*
Morgan H. Johnson	66	41.33	14.05	11,614
Steve Schaad	38	42.62	13.62	11,608
Motte Ranches, Inc.	72	39.39	14.58	11,486
Pucheu Bros. Ranches	36	40.83	14.04	11,466
Gragnani Bros.	144	37.02	15.42	11,422
Del Testa Farms	37	39.64	14.42	11,347
L. Kenneth Seibert	39	41.34	13.66	11,295
Michael Giffen Ranch	337	37.83	14.93	11,294
Marchini Bros.	76	39.58	14.25	11,284
Bruno Cauzza	43	41.33	13.65	11,282
D. T. Locke Ranch, Inc.	166	36.73	15.32	11,255
Sam & D. M. Biancucci, Inc.	141	40.14	14.00	11,236
Bob Cardwell Ranches	76	37.84	14.76	11,169
Goodman Traction Ranch	76	36.24	15.39	11,155
Bob Cardwell Ranches	76	38.05	14.48	11,018
Del Testa Farms	37	41.27	13.30	10,975
Chas. Wolsey	60	41.22	13.18	10,863
Rancho Trio	85	35.93	15.07	10,832
Clay Thurman & Percy Smart	33	38.64	13.99	10,811
Newhall Land & Farming Co.	70	39.16	13.75	10,769
Giffen, Inc.	147	35.65	15.07	10,744
R & S Farms	190	35.70	14.98	10,698
Clarkland Farms	86	40.19	13.29	10,685
W. B. Camp & Sons	66	36.67	14.56	10,679
William E. Des Jardins	86	32.45	16.45	10,677
Newhall Land & Farming Co.	104	37.48	14.23	10,666
N. F. Davis Drier & Elev.	152	34.73	15.24	10,583
Soares Bros.	30	40.64	13.01	10,573
Gragnani Bros.	144	35.76	14.77	10,573
Eugene Nord	37	38.86	13.56	10,539
Howard Michles	47	34.13	15.34	10,470
Lone Palm Farms	37	35.98	15.58	10,466
Vignolo Farms	88	37.12	14.07	10,446
Kenneth B. Seibert	38	41.83	12.44	10,412
Bob Cardwell Ranches	99	36.41	14.20	10,342
Arthur J. Cuelho	130	34.10	15.14	10,322
John Mederos	35	35.27	14.58	10,285
Bob Cardwell Ranches	35	37.09	13.76	10,205
Goodman Traction Ranch	122	36.28	13.93	10,109
Gragnani Bros.	26	33.87	14.86	10,063
Rabb Bros., Inc.	142	36.46	13.79	10,058
Newhall Land & Farming Co.	37	36.32	13.77	10,006
Pucheu Ranches	72	31.47	15.89	10,004
Richard H. Rogers	18	38.01	13.13	9,979
Dillon Bros.	43	39.83	12.48	9,945
Borges Farms	34	38.79	12.79	9,919
Tony Iafrati	76	37.65	13.12	9,875
Paul J. Crevolin	154	34.06	14.45	9,844
Gragnani Bros.	60	35.08	14.02	9,837
Wilson AG Enterprises	54	35.08	14.02	9,835
W. B. Camp & Sons	38	34.32	14.33	9,832
Richard D. Hohlbaugh	18	36.51	13.46	9,827
Aladdin Ranch	150	36.19	13.55	9,805
Spreckels Sugar Co.	44	34.66	14.13	9,794
Bonanza Farms	75	32.00	15.28	9,780
Wedel Farms	118	34.72	14.06	9,764
Barnard & Barnard	38	33.11	14.68	9,721
Paul J. Crevolin	71	31.41	15.43	9,690
Giffen, Inc.	75	32.59	14.84	9,674
Walter Willms	40	33.02	14.64	9,665
Joe G. Fanucchi & Sons	80	37.26	12.96	9,660
Keno Farms	145	36.96	13.01	9,615
Kenneth B. Seibert	95	35.63	13.49	9,610
Bell Farms	55	32.09	14.97	9,609
Wilmer Hedman	59	33.51	14.33	9,606
Joe G. Fanucchi & Sons	51	35.61	13.44	9,567
Green Acre Farms	77	34.62	13.81	9,561
Delmar Mettler	14	32.35	14.77	9,558
Ferdinand Palla	105	34.76	13.73	9,549
Sunset Ranch	307	37.84	12.61	9,542
Ross Farms	35	34.71	13.74	9,537
Linda Vista Farms	120	33.03	14.42	9,526
Joe Frietas, Jr.	36	38.96	12.18	9,489
Linda Vista Farms	150	31.32	15.08	9,446
Giffen, Inc.	166	30.28	15.59	9,443
Melvin Hughes	74	30.86	15.30	9,442
Richard H. Rogers	14	30.59	15.42	9,432
Sherman Cave	24	35.82	13.16	9,426
R & N Farms	270	33.89	13.88	9,407
Sam & D. M. Biancucci, Inc.	41	31.62	14.86	9,398
W. B. Camp & Sons	18	33.77	13.91	9,393
C. E. & R. B. Klepper	39	36.42	12.89	9,391
Paul W. Demkey	37	35.58	13.18	9,379
W. B. Camp & Sons	91	32.57	14.38	9,366
G. P. Orisio	35	31.55	14.82	9,353
Newhall Land & Farming Co.	26	31.14	15.00	9,342
Pete Milanesio	26	31.14	15.00	9,342
A. M. Falconer & Sons	18	31.32	14.89	9,325
Arthur J. Cuelho	80	31.92	14.57	9,302
Pilibos Bros., Inc.	206	33.34	13.90	9,270
Linda Vista Farms	150	30.48	15.20	9,269
Clayton Brown	84	30.46	15.15	9,227
Clayton Brown	159	32.17	14.32	9,211
Gragnani Bros.	152	36.43	12.62	9,195
Joe G. Fanucchi & Sons	62	34.37	13.35	9,176
Silveira Bros.	65	30.10	15.24	9,176
W. L. Simmons	68	37.28	12.29	9,163
Vignolo Farms	105	38.38	11.93	9,157
McKittrick Ranch, Inc.	93	32.45	14.10	9,154
W. R. Greenlee Farming	67	31.83	14.35	9,135
Fisher Bros.	42	40.15	10.99	9,124
Ralph Forrest	38	36.19	12.60	9,122
Silveira Bros.	77	31.48	14.49	9,121
Gragnani Bros.	145	33.86	13.45	9,108
Ralph Forrest	21	33.40	13.62	9,100
Clayton Brown	42	33.14	13.73	9,097
Silveira Bros.	71	27.64	16.45	9,092
Newhall Land & Farming Co.	47	33.05	13.75	9,089
Harris Farms, Inc.	130	30.20	15.04	9,084
Vista Del Llano Farms	272	31.74	14.30	9,078
Killdeer Farms	68	33.46	13.56	9,075
Markarian Farms, Inc.	38	35.58	12.75	9,073
Benson Bros.	16	32.79	13.80	9,046
H-M-Tenneco	150	31.01	14.58	9,040
Ross Farms	50	33.48	13.47	9,017
Giffen, Inc.	146	31.77	14.18	9,011
Harris Farms	54	42.23	10.65	8,992
Hubert Beene and Sons	150	30.87	14.55	8,983
Markarian Farms, Inc.	75	33.96	13.21	8,973
Walter Willms	101	29.83	15.03	8,969
Newhall Land & Farming Co.	42	34.95	12.82	8,961
Curtis Hair & Sons	36	31.68	14.13	8,954
Giffen, Inc.	281	29.87	14.98	8,948
Newhall Land & Farming Co.	73	35.49	12.59	8,938
Richard M. Stuhaan	39	34.07	13.09	8,920
Gramis Bros.	255	31.04	14.35	8,911
Timco, Murrieta Farms	147	29.39	15.15	8,902
Donald Eisner	122	36.48	12.18	8,888
Green Acre Farms	97	29.94	14.84	8,885
Gragnani Bros.	96	29.80	14.91	8,883
Triple "J" Farms	55	32.88	13.50	8,876
Buttonwillow Land&Cattle	79	34.01	13.00	8,845

New World's Record Sugarbeet Crop

(See cover photo)

A new world's record sugar beet crop was produced this past season by Spreckels growers Andy Christensen and Jon Giannini.

The two operate a diversified farm near Salinas of approximately 300 acres, which is cropped to sugarbeets, lettuce, celery, potatoes, cauliflower and broccoli.

The end result of sound farming practices, a new sugarbeet variety and Mother Nature's assistance, their thirty-acre field yielded a remarkable 62.4 tons of beets per acre at 14.02 percent sugar content for an average of 17,501 pounds of sugar per acre.

The former world record was set in 1959 by Salinas Valley grower John Domingos, whose 21.5 acre field produced 53.6 tons per acre, 15.89 percent sugar and 17,036 pounds of sugar per acre.

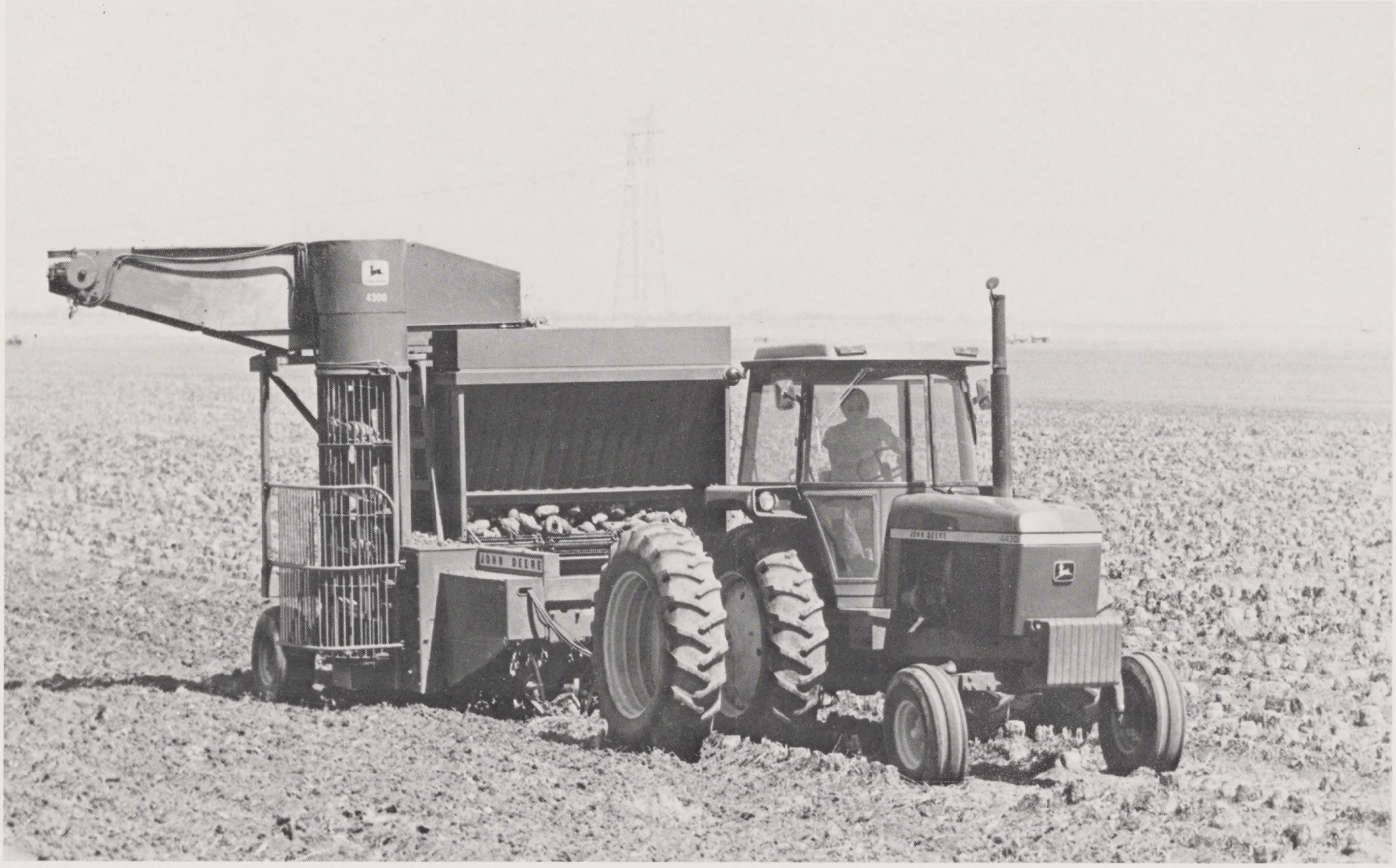
In addition to the new world record, Spreckels Sugar Company's Salinas Valley district recorded a new production high in 1972 by averaging 36.6 tons of beets per acre, 13.96 percent sugar and 10,210 pounds of sugar per acre.

Other growers, who came close to the world's record, were: Hansen Farms of Salinas, 61.4 tons per acre, 13.4 percent sugar, 16,449 pounds of sugar per acre; Lindeleaf Farms of Gilroy, 50.96 tons per acre, 16.3 percent sugar, 16,612 pounds of sugar per acre; and A. L. Noll Farms, Inc. of Gilroy, 51.72 tons per acre, 16.5 percent sugar and 17,033 pounds of sugar per acre.

The sugarbeet variety used by Christensen and Giannini was developed at the U.S. Agricultural Research Station in Salinas by Dr. John S. McFarlane. The variety, known as U.S. H9, was released to growers in 1970 after extensive testing by Dr. McFarlane and a fellow researcher, I. O. Skoyen. Disease resistant and high yielding, the variety is, on the average, capable of producing one to two tons more beets per acre than previously grown varieties.

Christensen and Giannini's Record Sugar Beet Crop Produced:

FROM ONE ACRE	FROM THIRTY ACRES
(1) 15,750 lbs of recoverable sugar.	(1) 472,500 lbs. of recoverable sugar.
(2) Enough sugar to supply the annual needs of 157 people.	(2) Enough for the annual needs of 4,725 people.
(3) Enough 1-lb. boxes of granulated sugar when laid end to end would cover a distance of 1½ miles.	(3) Enough 1-lb. boxes of granulated sugar, when laid end to end, would stretch from Salinas to King City.
(4) Assuming 1 teaspoon of sugar per cup, enough sugar for 756,000 cups of coffee.	(4) Enough sugar for 22,680,000 cups of coffee.
(5) Enough sugar to sweeten 175,000 12-oz. bottles of soda pop.	(5) Enough for 5,250,000 bottles of soda pop.
(6) Enough sugar to make 27,155 gallons of ice cream.	(6) Enough sugar to make 814,655 gallons of ice cream.
(7) Enough sugar to make 670,950 single scoop ice cream cones.	(7) Enough sugar to make 20,128,500 single scoop ice cream cones.
(8) Enough sugar to sweeten 75,000 29-oz. cans of peaches.	(8) Enough for 2,250,000 29-oz. cans of peaches.



Pictured above is John Deere's new 4300 beet harvester which features an auger-type elevator.

4300

John Deere Introduces New Sugarbeet Harvester

John Deere has introduced a new sugarbeet harvester with significant engineering advances over earlier models to increase harvesting capacity, cleaning capacity, convenience, and machine durability. Major innovations in the new 4300 Beet Harvester include:

An exclusive 26-inch-diameter auger to elevate beets from grab rolls to a horizontal truck conveyor.

Easy convertibility from lifter-loader to tank-type harvester by installing an 8,000-pound-capacity tank attachment.

Rienk or chain cleaning area and grab roll cleaning areas are twice as large as on earlier John Deere Beet Harvesters for proportionately increased cleaning capacity.

Versatility to harvest three rows of beets planted in 20 through 40-inch rows or four rows of beets planted in 20 through 30-inch rows.

Harvesting at speeds up to 7 mph, powered by a 94-to-125 hp tractor equipped with triple remote-cylinder control valves.

The auger has long been recognized as a basic device for the movement of materials, but until now had never been utilized in a sugarbeet harvester. While designing the 4300, John Deere engineers chose an auger, rather than the more conventional potato-chain elevating systems, because of its mechanical efficiency, simplicity, and dependability as compared with chains.

In addition to elevating the beets, the auger makes a significant contribution to the beet cleaning process. While rising on the auger, the beets are subjected to considerable agitation, tumbling and falling against other beets and the steel rods in the cleaning grates surrounding the auger. This agitation removes dirt which, by a combination of gravity and centrifugal force, is thrown through the opening between the rods of the cleaning grates.

The 4300, with tank installed, can be operated as a lifter-loader simply by running the truck conveyor toward the right for direct loading into trucks, bypassing the tank attachment. Movement of the upper cross-conveyor can be started, stopped, or changed on-the-go.

Island In a Metric Sea

Reprinted from the "Agricultural Situation" published by the United States Department of Agriculture:

The United States — the last major trading nation still using English weights and measures — has almost become an isolated island in a metric sea.

Were we not a major trading country, our lonely stance might be regarded as merely a national eccentricity.

As it is, clinging to English weights and measures has become a national expense — acting as a non-tariff barrier to U.S. sales overseas, especially of measurement sensitive products.

In fact, a special metric study made by the Department of Commerce at the request of Congress indicates that by 1975 our trade balance could suffer to the extent of $600 million a year if we continue out of step with the rest of the world.

The impact to the entire economy resulting from this $600 million trade balance loss is somewhere between $1.2 and $1.8 billion.

Has the time come for the United States to "go metric"?

We've been toying with the notion of switching for nigh onto 150 years and, in fact are drifting in a metric direction even now.

The Statistical Reporting Service, at the nerve center of the Nation's agricultural data system, would obviously be greatly affected by any change in our measuring system.

For that reason, Dr. Harry Trelogan, SRS' Administrator, and Dr. Bruce Kelly, Director of the agency's Research Division, have participated in many of the discussions as to whether the United States should or shouldn't switch to the metric system.

These two men recently highlighted for us some of the concerns of those in agriculture regarding a changeover to metric weights and measures.

Are U.S. farm exports really suffering because we're not a metric nation?

Judging from fiscal 1973, when our overseas farm sales likely reached a record level of $12½ billion, U.S. farm exports clearly aren't being hurt very much by our nonmetric status. Except for processed agricultural items, most of the farm products we sell abroad aren't particularly measurement sensitive.

Over the long run, however, our sales could suffer as a result of trade patterns that develop between metric countries. A case in point is what's happening in Western Europe.

Between 1967 and 1970 Britain, France, and West Germany agreed among themselves on comprehensive electronic standards based on metric units. The purpose at that time was to facilitate trade among the three only of electronic products.

But this agreement, initially limited to three countries and one class of products, is being extended to include the rest of Western Europe and to embrace other products as well.

The existence of international standards for measurement sensitive products is serving to strengthen Western Europe as a unified market for all products, including agricultural items.

Would it be very difficult for farmers to make a metric changeover?

Agricultural products, as they leave the farm, aren't especially measurement sensitive, so a changeover won't be as complicated for farmers as it would be in other industries.

To be sure, farmers will need to get themselves new scales and perhaps new marketing containers. But even in a concerted program to go metric, some things on the farm would change only slowly, and some never.

In most cases, things would be replaced with new metric models only when they wore out or became obsolete. This would certainly be true, for instance, of farm buildings, equipment, tools and machinery.

In the case of farm real estate deeds there would be no good reason to rewrite them in metric dimensions — meters instead of yards and hectares instead of acres — until the property changed hands and was resurveyed.

As a matter of fact, some deeds in New Orleans are still written in terms of the French foot of pre-Napoleonic times and in the Far West there are still tracts that described not in acres but in square varas, a holdover from the Spanish grant days.

How would the Nation's agricultural statistics be affected by a conversion to the metric system?

All agricultural data collected in the past would need to be converted into metric measures — a chore that would fall largely on SRS. However, in an age of computers, the conversion of historical data is not the burden it would once have been.

There would also undoubtedly be a period of dual dimensioning — reporting data in both English and metric terms — while people became adjusted to the new measures.

(Continued on page 22)

Balancing the work of switching over would be a much simpler set of agricultural statistics once we were fully on the metric system.

Our English system of weights and measures grew up haphazardly, with the result that farm products go to market not only in bushels, pounds, and gallons, but also in bags, bales, barrels, baskets, boxes, crates, cans, cases, drums, hogsheads, jars, tubs, and other containers.

Of all these containers only two, the barrel and the basket, have their sizes specified by federal law.

This lack of uniform measurements necessitates all kinds of conversions by statisticians who track the movement of farm products through the marketing system. Going metric, which would standardize the measurements and conversion factors, would ultimately make the job of reporting agricultural statistics much easier.

METRIC MARCH

A number of U.S. businesses have already begun shifting to the metric system in anticipation of an official changeover eventually.

A Wall Street Journal article earlier this year reported that IBM, Deere and Company, and International Harvester, among others, have already started down the path of metrication.

IBM began a 10-year phasing-in program in 1972 and plans to start using metric as its basic measure in new product development next year.

Deere and Company is designing metric equipment for production in 5 to 7 years. International Harvester also has disclosed plans to use metric measurements exclusively on new products at its Libertyville, Ill., construction equipment plant.

Competition for world markets is spurring the changeover, but so too are some domestic developments.

Automobile mechanics have added metric tools to their toolboxes because foreign vehicles have metric parts. In fact, even some automobiles made in the United States are being assembled with engines, transmissions, and other parts built to metric specifications.

On the governmental side, the National Aeronautics and Space Administration decided in 1970 to use international metric units in all its documents and reports.

And Ohio's highway department has already put up some road signs with distances specified in kilometers and is beginning to educate its personnel and suppliers about the metric system.

METRIC: A LAYMAN'S GUIDE

For most of us, accustomed as we are to our pounds and ounces, our feet and inches, it's hard to visualize the weight of a gram or the length of a meter.

Mathematical formulas — a gram is 0.035 ounce, etc. — aren't especially helpful either. What's really needed is some way to relate the metric measures to objects we all know.

So here it is — a layman's guide to the metric system, expressed in terms of everyday items.

For starters, keep in mind these three basic metric units — the gram for weight, the meter for length, and the liter for volume. Many weights and measures in the metric system derive from these. Area, for example, is measured in square meters; speed in meters per second; density in kilograms per cubic meter.

You should also learn these three prefixes that often get tacked on to the basic units — milli, meaning one-thousandth; centi, one-hundredth; and kilo, one thousand times.

The gram — about the weight of a paper clip.

The kilogram — slightly more than 2 pounds.

The megagram (or metric ton) — 200 pounds heavier than our ton.

The meter — a little longer than a yard.

The millimeter — the diameter of a paper clip wire.

The centimeter — the width of a paper clip.

The kilometer — somewhat farther than half a mile.

The hectare — about 2½ acres.

The liter — a bit larger than a quart.

The milliliter — five of them make a teaspoon.

The above metric units, along with those for time, electricity, and temperature, are what we'd be mostly using if the United States were to become a metric Nation.

Time and electricity pose no conversion problems for they're the same as we're using now.

Metric temperatures are given in degrees Celsius — 0° being the freezing point of water and 100° the boiling point.

Were we to go metric, a 37° degree day would really be a scorcher — nearly 99° on our Fahrenheit thermometers.

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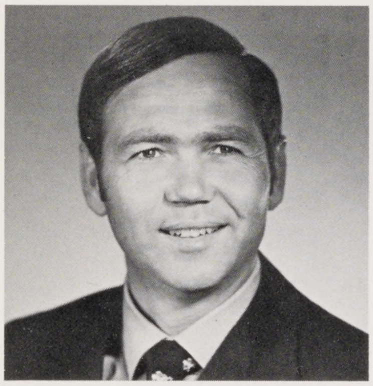
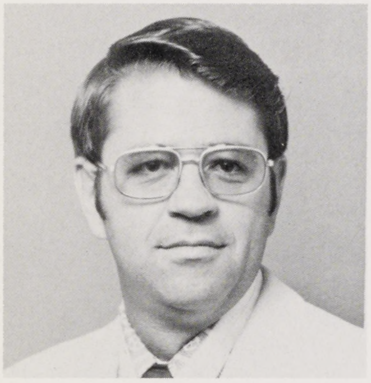
AGRICULTURAL STAFF CHANGES

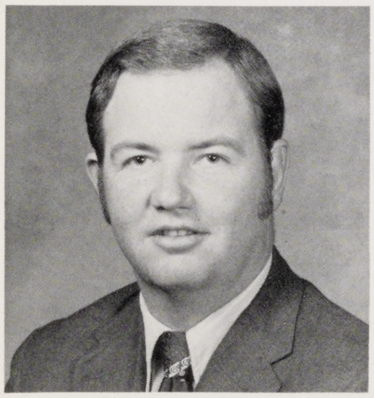


Jerry Nordstrom



Frank Nelson

Norman Rianda



Ronald Kukas

JERRY NORDSTROM TO PERSONNEL

Gerald G. Nordstrom, formerly Assistant to the Agricultural Manager, San Francisco, has been promoted to the position of Assistant Director of Personnel.

He joined Spreckels Sugar Company in 1962 at Woodland, Calif., as an Assistant Field Superintendent. In 1963, he was transferred to Mendota and made Field Superintendent for Fresno County's "Westside", and in 1967 he was assigned the additional responsibility of editing the "Spreckels Sugar Beet Bulletin". In 1971, he was appointed Assistant to the Agricultural Manager and transferred to San Francisco.

A native of Dos Palos, Calif., he attended the University of California, Berkeley, where he majored in Agricultural Economics. He is a member of the The Commonwealth Club of California, the American Society of Sugar Beet Technologists, a Director of the Greenbrook Homeowners Association, Inc. of Danville, and a member of the Public Relations Committee of the United States Beet Sugar Association.

Jerry, his wife Jeannette, and three children reside in Danville, Calif.

FRANK NELSON TO SAN FRANCISCO

Frank R. Nelson, formerly Field Superintendent in the Dixon, Vacaville and Fairfield areas of District III, Woodland, has been promoted to the position of Assistant to the Agricultural Manager and transferred to San Francisco.

Frank joined Spreckels Sugar Company in 1963 at Mendota, Calif., as an Assistant Field Superintendent. He was subsequently promoted to the position of Field Superintendent and transferred to the Bakersfield area where he assumed responsibilities for the Lerdo and Buttonwillow field districts. In 1965, he was transferred to the Woodland district where he served until the present.

He is a native of Gooding, Idaho, and attended the University of Idaho where he majored in Agricultural Economics.

Frank, his wife Sue and family will reside in San Ramon.

NORMAN RIANDA TO WOODLAND

Replacing Frank Nelson as Field Superintendent in the Dixon-Vacaville area of District III, Woodland, will be Norman F. Rianda. Norm has been serving as Field Superintendent for Spreckels in the King City area of the Salinas Valley.

Norm joined Spreckels Sugar Company in 1964 as an Assistant Field Superintendent in the Manteca area. He was subsequently promoted to Field Superintendent for the Walnut Grove, Isleton and Collegeville areas. In 1965, he was transferred to his current position in the Salinas Valley.

He is a native of Gonzales, Calif., and attended California State Polytechnic College at San Luis Obispo, where he majored in Agricultural Business Management.

Norm, his wife Joan and two children will reside in Woodland.

NEW ADDITION TO RESEARCH STAFF

RONALD KUKAS has joined Spreckels' Agricultural Research staff at Mendota as an Agronomist.

Ron is a native of Worland, Wyo., and attended the University of Wyoming where he attained both a Bachelor's and a Master's Degree in Agronomy.

He is a member of the Western Weed Society and the Weed Society of America.

Ron, his wife Melanie and one child now reside in Fresno.

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75th ANNIVERSARY

(Continued from page 16)

the years and presently has the capacity to slice more than 6,500 tons of beets per day.

In addition to the Salinas factory, Spreckels Sugar Company operates four other factories. The second factory was built in 1917 at Manteca, California, and has a slicing capacity of 4,200 tons per day. The third factory was built in 1937 at Woodland, California, and has a slicing capacity of 3,600 tons per day. The fourth factory was constructed in 1963 at Mendota, California, and the fifth was built at Chandler, Arizona, in 1965. Both the Mendota and Chandler factories have slice capacities in excess of 4,000 tons of beets per day.

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PETE DEL TESTA

(Continued from page 15)

of sugar beets to the advances in effective herbicides. "When I started growing beets, 20 to 25 tons to the acre was considered pretty good. Now, with improved varieties, effective weed control and positive programs to reduce beet diseases like virus yellows and curly-top, 35 to 40 tons is right in the ball park," he explained.

Del Testa concluded that the slow, steady advance of sugar returns deserves consideration against the yo-yo ups and downs characteristic of other commodities.

"This year, in addition to barley, rice and alfalfa hay, I had 250 acres in cotton and 150 in sugar beets. I figure that's about the right ratio for next year, too," Del Testa said.

Three generations of Del Testas have farmed in the area south of Mendota. Pete's father started in 1918 and Pete himself returned to the farm after his service years in World War II. Now his son Frank, 24, is carrying on the family tradition.

Pete Del Testa's great interest outside of his farming enterprise again reveals his inclination to "hedge his bets." On his Silken Oaks Farm, east of Sunnyside, he raises and runs race horses, including Ratty Rulla who won 10 of 12 stake races — and $60,000 — as a two-year-old. "Only trouble is he died of a sudden heart atack at the age of 3," Del Testa said ruefully.

But Silken Oaks isn't dependent on winning stake races. It's a solid enterprise, with the accent on breeding and boarding horses.

Spreckels' Heimforth evaluated the reasons for Del Testa's success in farming. "His big plus is management. His intentions from the outset are to make a profit: whatever needs to be done to assure that result, he does. He doesn't skimp on land preparation, cultivation, irrigation, fertilization or any other timely essential of farm management."

(This article was prepared by Mr. Ed Souder and released through the California Sugarbeet Growers Association.)

DISTRICT 3 — SACRAMENTO VALLEY

Donald R. Hefner	*District Manager*	WOODLAND	916-662-3261
Roger S. McEuen	*Agricultural Superintendent*	″	″
Frank R. Nelson	*Field Superintendent*	″	″
William W. Porter	″ ″	″	″
Lee O. Seda	″ ″	″	″
Terry A. Talbot	″ ″	″	″
Jeff L. Stober	″ ″	″	″
Jerry M. Gallagher	″ ″	″	″
Daniel E. Brown	*Assistant Field Superintendent*	″	″

DISTRICT 4 — SOUTH SAN JOAQUIN VALLEY

Dan L. Dieter	*District Manager*	MENDOTA	209-655-4961
J. Gib Maurer	*Agricultural Superintendent*	BAKERSFIELD 431 Kentucky Street	805-324-4904
Stanley D. Bayer	*Agricultural Superintendent*	MENDOTA	209-655-4961
Jack H. Griffin	*Field Superintendent*	″	″
Richard P. Heimforth	″ ″	″	″
W. Ben Marcum	″ ″	″	″
Frank N. Hunt	″ ″	″	″
John H. Watson	″ ″	″	″
W. H. Blanken	″ ″	HANFORD	209-582-4846
Martin Chernek, Jr.	″ ″	BAKERSFIELD 431 Kentucky Street	803-324-4904
Carlton G. Schaffer	″ ″	″	″
Jerry A. Sagaser	″ ″	″	″
Kevin G. Melluish	*Assistant Field Superintendent*	MENDOTA	209-655-4961

DISTRICT 5 — ARIZONA

Ralph S. Lambdin	*District Manager*	CHANDLER, ARIZ.	602-963-7311
James E. Gardiner	*Agricultural Superintendent*	″	″
Gerald R. Kley	*Field Superintendent*	″	″
Charles M. Carlson	″ ″	″	″
Norman D. Shelton	″ ″	″	″
Olen C. Zirkle, Jr.	″ ″	SAFFORD, ARIZ.	602-428-2918
Vernon D. Sherwood	*Farming Superintendent*	CHANDLER, ARIZ	602-994-9669
Michael T. Daugherty	*Farming Superintendent*	″	602-963-7311
Jay N. Hill	*Farming Superintendent*	WILLCOX, ARIZ. Star Route 3 Box 11-A	602-384-3062
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